The Rhetoric of Explanation in Lucretius' De rerum natura

DANIEL MARKOVIĆ

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C'est une grande erreur de croire que les vérités scientifiques diffèrent essentiellement des vérités vulgaires. Elles n'en diffèrent que par l'étendue et la précision. Au point de vue pratique, c'est là une différence considérable. Mais il ne faut pas oublier que l'observation du savant s'arrête à l'apparence et au phénomène, sans jamais povoir pénétrer la substance ni rien savoir de la véritable nature des choses.

It is a great mistake to believe that scientific truths are fundamentally different from the truths of every day. They are not, except for their extension and precision. From the point of view of practice, this is an important difference. But we must not forget that the observation of savant stops at the level of appearances and phenomena, without ever being able to penetrate the substance or know anything of the true nature of things.

Anatole France, *Le jardin d'Épicure*

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PREFACE AND ACKNOWLEDGMENTS

The overall rhetorical feel of *De rerum natura* continues to impress readers and scholars for more than one hundred years. Already J.W. von Goethe described Lucretius as a poet-orator (*ein dichterischer Redner*), and in his Marburg dissertation of 1881, K.H.J. Spangenberg wrote: "all rhetorical procedures that we find in the poets of later times already exist in Lucretius" (*omnes artes rhetoricae, quas apud posterioris temporis poetas inuenimus, iam apud Lucretium extant*). But this particular quality of Lucretius' masterpiece is commonly perceived with unease. The majority of modern interpreters consider the rhetorical character of the poem to be one of its problematic features, comparable to Lucretius' heretic treatment of Epicurean physics in the form of an epic poem. Alleged incompatibility of Epicurus' philosophy with rhetoric has led modern scholars to isolate rhetorical elements in the poem and regard them as non-Epicurean, accessory features. This book approaches the question from a different point of view, based on a wider understanding of the term *rhetoric*. Its core consists of a fresh analysis of the process of the composition of *De rerum natura* intended to show that, instead of injecting rhetorical strategies from non-Epicurean sources, Lucretius in fact intensified rhetorical elements already present in the work of Epicurus, systematically returning them to their ancestral forms found in the language of epic poetry.

An earlier version of the book was submitted as a part of the requirement for the doctoral degree of the University of Illinois at Urbana-Champaign in October 2006.

For the core of this book I owe lasting debt of gratitude to my advisor, Howard Jacobson, and to my readers, William M. Calder III, Thomas M. Conley, Kirk R. Sanders, and Danuta R. Shanzer. Their comments and suggestions have improved the initial drafts of the text to a great extent. My gratitude to Marcus Heckenkamp is immense: his most generous help and our invaluable discussions have had great influence on the outcome of this project. Another close friend, Philip A. Wattles, has carefully read the final version of the manuscript and improved the present text in a countless number of places. Last but

not least, I am deeply grateful to my wife Junko for her prudence and essential emotional support.

Although this research project occasionally involved other libraries in the United States, its vital stages were conducted using the marvelous resources of the Classics Library of the University of Illinois at Urbana-Champaign. I would like to express here my sincere thanks to two superb professionals at the head of this Library, Bruce W. Swann and Karen M. Dudas.

Philadelphia, February 2008

ABBREVIATIONS

The references to Greek works follow the abbreviations of Liddell-Scott-Jones' *Greek-English Lexicon* (Oxford: Clarendon Press, 1996), except for the works of Epicurus:

Her.	*Epistula ad Herodotum*
Men.	*Epistula ad Menoeceum*
Pyth.	*Epistula ad Pythoclem*
S	*Sententiae*
SV	*Sententiae Vaticanae*

The references to Latin works follow the abbreviations of *Thesaurus linguae Latinae* (Leipzig: B.G. Teubner, 1900–).

INTRODUCTION

FROM EPICURUS TO LUCRETIUS

One of the passages on which recent Lucretian scholarship has shed much light is the ἀριστεία of Epicurus in Book One of *De rerum natura*.[1] The passage fashions Epicurus as an epic hero who engages religion in a Homeric duel on behalf of all humanity. His battle has a successful outcome—the reversal of the initial situation, in which human life was lying on the ground, oppressed by religion.

Humana ante oculos foede cum uita iaceret
in terris oppressa graui sub religione,
quae caput a caeli regionibus ostendebat
horribili super aspectu mortalibus instans,
primum Graius homo mortalis tollere contra
est oculos ausus primusque obsistere contra,
quem neque fama deum nec fulmina nec minitanti
murmure compressit caelum, sed eo magis acrem
inritat animi uirtutem, effringere ut arta
naturae primus portarum claustra cupiret.
ergo uiuida uis animi peruicit, et extra
processit longe flammantia moenia mundi
atque omne immensum peragrauit mente animoque,
unde refert nobis uictor quid possit oriri,
quid nequeat, finita potestas denique cuique
quanam sit ratione atque alte terminus haerens.
quare religio pedibus subiecta uicissim
obteritur, nos exaequat uictoria caelo. (1.62–79)

When man's life lay for all to see foully groveling upon the ground, crushed beneath the weight of Superstition, which displayed her head from the regions of heaven lowering over mortals with horrible aspect, a man of Greece was the first to uplift mortal eyes against her, the first to make stand against her; for neither fables of the gods could quell him, nor thunderbolts, nor heaven with menacing roar, but all the more they goaded the eager courage of his soul, so that he should desire, first of all men, to shatter the confining bars of nature's gates. Therefore the lively power of his mind prevailed, and forth he marched far beyond the

[1] Conte 1966, 356 and 1990, 7–9 (= 1994, 1–3); West 1969, 57–63; Schrijvers 1970, 254ff.; Kenney 1974, 18–24; Hardie 1986, 194–200; Gale 1994, 42–45 and 118–119.

> flaming walls of the world, as he traversed the immeasurable universe in thought and imagination; whence victorious he returns bearing his prize, the knowledge what can come into being, what can not, in a word, how each thing has its powers limited and its deep set boundary mark. Therefore Superstition is now in her turn cast down and trampled underfoot, whilst we by the victory are exalted high as heaven.[2]

But what kind of *uictoria* is Epicurus'? The epic imagery in this passage presents his philosophical achievement as military heroism, translating the intellectual grandeur of the Greek philosopher to the system of values of Lucretius' Roman upper-class readers.[3] The whole passage is based on the presentation of philosophical argument in terms of the concept of war. Epicurus' victory is an allegory, conveying an essentially novel message foiled in old and traditional literary motifs: the philosopher did not win owing to the strength of his hands, but owing to *acris animi uirtus* (the eager courage of his soul) and *uiuida uis animi* (the lively power of his mind); he performed his attack on the sky, the territory of the gods, not physically, in military armor, but *mente animoque* (in thought and imagination); the spoils he brought back with him are not material objects, but answers to the questions *quid possit oriri,* | *quid nequeat, finita potestas denique cuique* | *quanam sit ratione atque alte terminus haerens* (what can come into being, what can not, in a word, how each thing has its powers limited and its deep set boundary mark).

The praise of Epicurus as the savior of mankind is echoed in the proem to Book Five, where Lucretius compares the legacy of Epicurus to the mythological achievements of Heracles. In this passage the analogy between the philosopher and a military leader is partly corrected. The poet argues that Epicurus, the true liberator of humanity, has subdued and expelled anxieties from the human mind *dictis, non armis* (by his sayings, not by arms). These sayings (*dicta*) illuminate the real nature of the gods and the entire universe:

> *At nisi purgatumst pectus, quae proelia nobis*
> *atque pericula tunc ingratis insinuandum!*
> *quantae tum scindunt hominem cuppedinis acres*
> *sollicitum curae quantique perinde timores!*
> *quidue superbia spurcitia ac petulantia? quantas*
> *efficiunt clades! quid luxus desidiaeque?*
> *haec igitur qui cuncta subegerit ex animoque*

[2] All translations of *DRN* are M.F. Smith's, with occasional minor changes. Other translations are mine.

[3] Epicurus' heroism might be Lucretius' version of an Ennian *exemplum uirtutis*.

expulerit dictis, non armis, nonne decebit
hunc hominem numero diuom dignarier esse?—
cum bene praesertim multa ac diuinitus ipsis
immortalibu' de diuis dare dicta suerit
atque omnem rerum naturam pandere dictis. (5.43–54)

But unless the mind is purged, what battles and perils must then find their way into us against our will! How sharp then are the cares with which lust rends the troubled man, how great also the fears! Or what of pride, of filthy lust, of petulance? How great the devastation they deal! What of luxury and sloth? He therefore who has vanquished all these and cast them forth from the mind by words, not by swords, will it not be proper that he be held worthy to be counted in the number of the gods? Especially since he was accustomed to discourse often in good and godlike fashion about the immortal gods themselves, and to disclose in his discourse all the nature of things.

The purifying and liberating function of Epicurus' *dicta* (sayings)[4] are emphasized again in the proem to Book Six:

ueridicis igitur purgauit pectora dictis
et finem statuit cuppedinis atque timoris
exposuitque bonum summum quo tendimus omnes
quid foret, atque uiam monstrauit, tramite paruo
qua possemus ad id recto contendere cursu,
quidue mali foret in rebus mortalibu' passim,
quod fieret naturali uarieque uolaret,
seu casu seu ui, quod sic natura parasset,
et quibus e portis occurri cuique deceret
et genus humanum frustra plerumque probauit
uoluere curarum tristis in pectore fluctus. (6.24–34)

Therefore with truth-telling words he scoured the heart, he put a limit to desire and fear, he showed what was that chief good to which we all move, and pointed the way, that strait and narrow path by which we might run thither without turning. He showed what evil there was everywhere in human affairs, which comes about and flies about in different ways, whether by natural chance or force, because nature had so provided, and from what sally-ports each ought to be countered; and he proved that mankind had no reason for the most part to roll the sad waves of trouble within their breasts.

Describing the aim and the effects of Epicurus' words, Lucretius' images and analogies also express his own intentions. In the proem to Book Three the poet presents Epicurus as his literary exemplar:[5] he

[4] I.e., φωναί; cf. Heinze 1897, 50.
[5] On Lucretius' characterization of Epicurus as a poet see Volk 2002, 106–116.

plants his footsteps in the marks of Epicurus' footsteps, he emulates Epicurus' song, and regards Epicurus' written words as his Homer's feast, an everlasting source of inspiration and enlightenment.

O tenebris tantis tam clarum extollere lumen
qui primus potuisti inlustrans commoda uitae,
te sequor, o Graiae gentis decus, inque tuis nunc
ficta pedum pono pressis uestigia signis,
non ita certandi cupidus quam propter amorem
quod te imitari aueo: quod enim contendat hirundo
cycnis, aut quidnam tremulis facere artubus haedi
consimile in cursu possint et fortis equi uis?
tu pater es, rerum inuentor, tu patria nobis
suppeditas praecepta, tuisque ex, inclute, chartis,
floriferis ut apes in saltibus omnia libant,
omnia nos itidem depascimur aurea dicta,
aurea, perpetua semper dignissima uita. (3.1–13)

O you who first amid so great a darkness were able to raise aloft a light so clear, illuminating the blessings of life, you I follow, o glory of the Grecian race, and now on the marks you have left I plant my own footsteps firm, not so much desiring to be your rival, as for love, because I yearn to copy you: for why should a swallow vie with swans, or what could a kid with its shaking limbs do in running to match himself with the strong horse's vigor? You are our father, the discoverer of truths, you supply us with a father's precepts, from your pages, illustrious man, as bees in the flowery glades sip all the sweets, so we likewise feed on all your golden words, your words of gold, ever most worthy of life eternal.

In a characteristically bold and captivating manner these lines plant the discourse of *DRN* in the tradition of the Garden, and, broadly speaking, within the genre of Greek philosophical writing. Although the form of epic poetry in which this statement is made may seem to complicate and even endanger Lucretius' direct affiliation of his own work to that of Epicurus—and this important question will be addressed later—the claim the author makes in these lines must be taken seriously. It is true that due to its poetic form *DRN* was not perceived as a philosophical work in antiquity; this, however, must not obscure the fact that this poem was conceived and executed as an act of imitation of Epicurus. The claim is stressed once again in Book Five:

Cuius ego ingressus uestigia dum rationes
persequor ac doceo dictis, quo quaeque creata
foedere sint, in eo quam sit durare necessum
nec ualidas ualeant aeui rescindere leges (5.55–58)

> His steps I trace when I follow his explanations, showing by my words how all things are bound to abide in that law by which they were made, and how they are impotent to annul the strong statutes of time.

In these lines we see an important shift, for now it is Lucretius who instructs his audience *dictis* (by his words). To understand Lucretius' logic we must not only think of similarities between the work of the poet and the work of the philosopher on the level of content and on the level of the procedures of exposition; we must understand that what essentially makes *DRN* an imitation of the works of Epicurus is the ultimate goal of the poem, namely Lucretius' wish for his words to have the same effect on the audience as the words of his teacher. Thus the frame of philosophical literary tradition within which Lucretius situates *DRN* is defined by its quintessential aspiration to bring to its audience personal happiness and a life free of turbulence.

Understanding Lucretius as a direct descendant of Epicurus we are able to see how the allegory of a war campaign, introduced above, connects the work of the Roman poet with the work of the Greek philosopher. What this allegory vividly describes is essentially the *polemic* character of Epicurus' prose. As the testimonies about and scattered remains of Epicurus' writing show, the work of the founder of the Garden was polemical in a direct and heated way.[6] His criticism was directed against Plato and young Aristotle above all;[7] but he also sought to distance himself clearly even from those predecessors whose teaching laid the foundations of his own, such as for example the first atomists, Leucippus and Democritus. The fact that he articulated his teaching vis-à-vis the work of such figures as Democritus, Plato, and Aristotle shows that Epicurus had a clear idea about the arena in which he fought and the type of audience he was trying to win over. In addition to this, we should observe that Epicurus' aspirations were even more ambitious than those of his predecessors. The founder of the Garden formulated his teaching in the aftermath of the conquests of Alexander the Great, when the horizon encompassing the concept of

[6] The opponents liked to discredit Epicurus on account of his abusive language (Cic. *Nat. deor.* 1.93, D.L. 10.8). Sedley 1976 argued that the traditional image of Epicurus as a malicious philosopher goes back to his former student and bitter opponent Timocrates, and should not be taken at its face value. For a detailed discussion of Epicurus' polemics see Kleve 1978, 43–47.

[7] As shown by Bignone 1936 (= 1973).

"community" became much wider than before.[8] Thus it was possible for Epicurus to hope for his teaching to find much wider acceptance than his predecessors could in the past.

Lucretius' poem reflects well the polemical spirit of Epicurus' writing. Constant presence of the imagery of war in the poet's diction indicates his understanding of his own discourse in terms of polemical argumentation.[9] In Book One, he warns Memmius that one day he may be *defeated* by horrifying sayings of priests: *a nobis… uatum | terriloquis* uictus *dictis, desciscere quaeres.*[10] Later, arguing against an infinite division of matter, Lucretius presents his conclusion that indivisible particles exist as a confession caused by a *defeat*: uictus *fateare necessest | esse ea quae nullis iam praedita partibus extent.*[11] At the beginning of the section in which he refutes the ἀρχαί of the Greek philosophers, the poet sees his argumentation as a series of *duels*—the first *general* to enter duel is Heraclitus: *Heraclitus init quorum* dux proelia *primus.*[12] A number of similar expressions in the poem prove the cohesive force of the concept: *quod quoniam* uinco *fieri* (and since I *gain victory in proving* that this is so);[13] *dede manus, aut, si falsum est,* accingere contra (own yourself *vanquished*, or, if it is false, *gird up your loins to fight*);[14] *ratione docere et* uincere *uerbis* (to explain by reasoning and to *win victory* in words).[15]

Another agonistic image, that of the legal trial, also plays a prominent role in Lucretius' conception of argumentation. At the end of Book Three, in his "diatribe" against the fear of death, the poet presents his mouthpiece, *Natura*, as a person who *pleads a case* on trial: … *iustam* intendere litem | *naturam et ueram uerbis* exponere causam (… that nature *urges against* us a just *charge* and in her plea *sets forth* a true *case*); *iure…* agat, *iure increpet inciletque* (she would be right… *to bring her charge*, right to upbraid and reproach).[16] In Book Six, the poet compares Epicurean reasoning about the causes of astronomical phenomena to the

[8] Cf. the concept of the community of all men as subjects to universal laws, promoted by Zeno of Citium in his *Republic* (Plu. *Moral.* 329a–b).

[9] For a detailed discussion of Lucretius' polemics see Kleve 1978, 54–70.

[10] 1.102–103.

[11] 1.624–625. Cf. 5.343. The idea of defeat in debate is also attested in Epicurus (*SV* 74).

[12] 1.638.

[13] 2.748.

[14] 2.1043.

[15] 5.735.

[16] 3.950–951 and 963. The whole section is structured as a combination of treatise and dialogue (see Rambaux 1980).

reasoning one would apply in a criminal case of death in which one has no access to the actual body.[17] The fact that Lucretius' work is highly polemical is also reflected in his choice of Gaius Memmius as the addressee of the poem. When he addressed the praetor of 58 BC, the poet chose a member of the Roman upper class who was interested mainly in war and politics, and not really predisposed to Epicureanism. In fact, what we know about Memmius suggests that he may have been an extremely unsympathetic addressee. A couple of years after the composition of *DRN* Cicero had to intervene on behalf of one of his clients, asking Memmius not to destroy the house and garden of Epicurus in Athens.[18]

Thus the fact that the imagery of war is *per se* one of the distinctive markers of the epic genre has in the case of Lucretius only secondary importance: the author, as we have seen, claims to continue the tradition of philosophical discourse; the battles he refers to are the battles of the mind; and finally, the weapons used in these battles are words and arguments.

Greek philosophy was as agonistic as any other aspect of Greek culture, and it is not surprising that in the course of time Greek philosophers developed a thorough and systematic understanding of the rules of the contest. They provided the techniques of speaking and arguing employing a theoretical basis, and incorporated them into their methodology. This development reached its apogee in the work of Plato's disciple Aristotle, who treated the role of rhetoric and dialectic in philosophical polemics in the most thoughtful and illuminating way. These two disciplines retained the interest of later philosophers in one way or another. Some, including the Stoics and the New Academy, continued to recognize them as indispensable weapons in verbal confrontation. Zeno of Citium, for example, when he was asked to explain the difference between rhetoric and dialectic, made an analogy with boxing and compared the former to a hand with its fingers stretched out, and the latter to a clutched fist.[19]

The vivid illustration of Zeno rests entirely upon Aristotle's recognition of the importance of rhetoric and dialectic, and view that rhetoric is a counterpart (ἀντίστροφος) to dialectic: according to Aristotle, both disciplines are used as tools in finding *plausible* answers, and lack the

[17] 6.703–711. See below, pp. 134–135.
[18] Cic. *Ad fam.* 13.1 (Shackleton-Bailey 63), dated to June–July 51 BC.
[19] Cic. *Orat.* 113; id. *Fin.* 2.17; Quint. *Inst.* 2.20.7; S.E. *M.* 2.7.

certainty of scientific demonstration; their methods of inference mirror each other—dialectical syllogism has its counterpart in rhetorical enthymeme, and dialectical induction in rhetorical example; finally, they both use the system of τόποι.[20] Another important insight of Aristotle's is that rhetoric and dialectic have general application and are not limited to a single class of subjects, although rhetoric most often happens to be grounded in the realms of ethics and politics.[21] Hence for example rhetoric can be useful in scientific instruction, since even the most accurate scientific knowledge can fail to persuade laymen, who will be able to understand the material only if it is presented in terms of commonly held views.[22]

An important question must be raised at this point: even if we agree to see Epicurus' and Lucretius' main activity as their use of words and arguments to win over their audience, promoting ethical principles based on scientific knowledge, are we justified to talk about any conscious use of rhetoric and dialectic in the Epicurean philosophical system? According to many (hostile) reports from antiquity, Epicurus did not share Aristotle's views on the importance of rhetoric and dialectic in philosophical education and inquiry. Ancient sources tell us that he actually rejected oratory, saying that "a wise man will not compose fine speeches" (οὐδὲ ῥητορεύσειν καλῶς, sc. τὸν σοφόν),[23] and reduced rhetoric to the principle of clarity (σαφήνεια);[24] his dismissal of dialectic or logic was even more notorious.[25] In order to resolve this problem we should perhaps take a look at it from a different angle, using an Epicurean source as our guide. In his *Rhetorica*, relying on the authority of his teacher Zeno of Sidon, Philodemus argues that Epicurus criticized only two genres of rhetoric, namely forensic and deliberative rhetoric, and that his criticism did not include epideictic or "sophistic" rhetoric, i.e., the art of display writing, the essential function of which is to consolidate the community.[26] Philodemus' argument that epideictic rhetoric should be regarded as a τέχνη shows that it is not unreasonable to suppose that Epicurus could have approved of this kind of rhetoric, and

[20] Ar. *Rh.* 1.1.1, 1354a; 1.2.8, 1356a–b; 1.2.20–22, 1358a.
[21] Ar. *Rh.* 1.1.14, 1355b; 1.2.7, 1356a.
[22] Ar. *Rh.* 1.1.12, 1355a.
[23] D.L. 10.118. Cf. Plu. *Moral.* 1127a.
[24] D.L. 10.13.
[25] E.g., Cic. *Fin.* 1.22 and 2.18.
[26] For epideictic rhetoric in general see Lausberg § 61, 3 and Kennedy 1963, 152–203.

deemed it useful for a philosopher,[27] although we cannot be certain that he himself left any explicit remark on this subject.[28]

Leaving theoretical room for certain type of rhetoric in Epicurean writings, Philodemus' exegesis of Epicurus' position towards rhetoric suggests a solution to another Lucretian problem, namely the nature of the relationship between poetry and rhetoric in the work of the Roman poet. It has already been suggested that the function of poetry in *DRN* is that of persuasion.[29] And indeed, poetry and rhetoric are close relatives, as is clear if we put the two in diachronic perspective. Contrary to the old and widely spread belief, Greek rhetoric was not invented by Corax and Tisias as a result of the court and assembly practices and the development of democracy. It grew directly out of epic and lyric poetry, and was helped by the spread of literacy.[30] The primary form of rhetoric should not be seen in forensic, nor deliberative rhetoric, but in *epideictic rhetoric*, the *genus demonstrativum* (e.g., Gorgias' Ἑλένης ἐγκώμιον).[31] J. Walker, who traced the process of the historical development of public discourse in Greece from epic and lyric poetry to epideictic rhetoric, sums up his discussion as follows: "insofar as epideictic is the 'primary' or central form of rhetoric, and poetry is the original and ultimate form of epideictic, poetry is also the original and ultimate form of rhetoric."[32]

Allowing ourselves to be guided by Philodemus, we may argue with plausibility that the main reason for Epicurus' rejection of rhetoric lay within the realm of courtrooms and assemblies, rather than within the realm of cultivated argumentation and speech in general. For Epicurus, devoting one's life to forensic and deliberative rhetoric meant something quite different than using rhetorical principles in philosophical writing. Just like a devotion to philosophy, devotion to rhetoric in antiquity implied an entire way of life. This life was based exactly on those premises which Epicurus wished to eradicate, most importantly the

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27 Cf. Sedley 1989, 108.

28 For a bit more comprehensive overview of Epicurean theory and use of rhetoric see Asmis 1983, 38–40.

29 Asmis 1983, 50; cf. Classen 1968, 116–117.

30 The well confirmed tradition that Gorgias was a disciple of Empedocles seems to be a bit more illuminating (DK 82 A 2, 3, 10) than the story about Corax and Tisias.

31 I wishfully add here Gorgias' Περὶ τοῦ μὴ ὄντος or Περὶ φύσεως. The authenticity of this treatise is doubtful.

32 Walker 2000, 41. For a similar but less explicitly stated view see Schrijvers 1970, 10–14.

premise that the accumulation of wealth and political power constitute important goals in human life.

Even if we lay aside our refined understanding of Epicurus' theoretical position on rhetoric, Epicurean concern with the problems of ethics and with the question of how should one live one's life makes rhetoric indisputably relevant for an analysis of Epicurean discourse. Epicurus' philosophy was not a purely theoretical and neutral scientific system, but a teaching developed in order to change human life by formulating ethical principles on the basis of scientific truths. Epicurus was a socially engaged thinker, who had in his mind a very concrete goal.[33] The passages cited above showed that Epicurus' work was seen by his followers as having achieved that goal, one comparable to the heroic deeds of the past, such as the defeat of an enemy and the liberation of one's own kin. Epicurus accomplished his great achievement with his words, *dictis*, and it was his *dicta* that fed his followers. As a follower and imitator of Epicurus, Lucretius used the words of the master to liberate his fellow Romans.

My insistence on the importance of words, arguments, and rhetoric in the Epicurean intellectual campaign is intended to prepare the ground for a new study of rhetorical strategies employed by Lucretius. At this point, I hope, the proposal for a rhetorical analysis of a work that belongs to the philosophical literary tradition does not raise controversy, nor does the idea of a rhetorical analysis of an epic poem. The only point that requires further clarification is my understanding of the term *rhetoric*. I use the term in its broadest, essentially Aristotelian sense, to refer to the ways in which authors of literary texts on any possible subject secure the adherence of their audience. The term thus transcends the notion of literary genre, and simply indicates the set of traditional formal techniques and procedures which authors use to create their texts and produce desired effects on their audience.[34] This definition of rhetoric places central importance on the process of the composition of text as a medium. As a consequence, the present study will be guided by the questions concerning the process of the composition of *DRN*. This approach will enable me to dispose of the modern

[33] Hence the interest of young K. Marx in the work of Epicurus, attested in his *Hefte zur epikureischen, stoischen und skeptischen Philosophie* (1838–1840), and his doctoral dissertation entitled *Differenz der demokritischen und epikureischen Naturphilosophie nebst einem Anhange* (1840–1841); also, B. Farrington's Marxist interpretation of Lucretius' project in his *Science and Politics in the Ancient World* (1939).

[34] Cf. Van der Eijk 1997, 76 n. 1.

lens which leads to the tendency of dissecting Lucretius' poem according to the chart imposed by our modern academic compartments; it will show us why *DRN* should not be regarded as a *monstrum* with the head of Philosophy, the neck and the limbs of Epic Poetry, and the plumage of Rhetoric.

Furthermore, the importance I place on Lucretius' debt to Epicurus prepares the way for a wider exploration of the possibility that the most important rhetorical features of Lucretius' poem essentially reflect and develop the seeds present in the works of Epicurus. I assume that the written work of Epicurus informed not only the spirit, but also the word of *DRN*. In order to test this assumption, I intend to take into consideration all the extant texts and fragments of Epicurus, since, as *DRN* 3.9–13 (quoted above) shows, Lucretius did not draw *all* of his material exclusively from a single work of Epicurus. Nevertheless, my approach will be much influenced by D. Sedley's argument that Epicurus' *On Nature* was probably Lucretius' most important source, and that this work was the *Prosavorlage* for all the central, argumentative portions of the individual books of the poem.[35]

My emphatically wide understanding of the term rhetoric and my decision to take seriously Lucretius' statement about his debt to Epicurus promise to evade two common misconceptions that lurk in the rhetorical analyses of *DRN* conducted to this point. The first misconception lies in the tendency of modern interpreters to isolate rhetorical elements in Lucretius' poem as non-Epicurean, accessory features, in essence somewhat loosely attached to the scientific tissue of *DRN*. Examples of this approach are numerous and vary only in degree: in his seminal article on poetry and rhetoric in *DRN*, C.J. Classen (1968) presented Lucretius as a missionary, ready to use all available means to achieve his mission, including poetry and rhetoric, i.e., means external to Epicurus' scientific, logical system; A. Bartalucci (1972) traced the rhetorical elements in *DRN* back to the influence of the circle responsible for *Rhetorica ad Herennium*; B.P. Wallach (1975 and 1976) interpreted rhetorical elements in certain sections of *DRN* as "influence of rhetoric and diatribal style" (i.e., the style of popular philosophical discourse), regarding "diatribal style" as a Cynic-Stoic genre, and ignoring the

[35] For Epicurus' *On Nature* as the main source of *DRN* and speculation on the order of steps which Lucretius took in arranging the material of his poem see Sedley 1998, 134–165.

fact that Epicureans used popular philosophical discourse as much as the members of any other Hellenistic school;[36] E. Asmis (1983), who explained Lucretius' exposition of individual arguments in light of the post-Aristotelian fusion of philosophy and rhetoric in the Hellenistic period (especially with regard to the practice of discussion of a *general question*, θέσις),[37] described the logic of Lucretius' composition as rhetorical, contrasting it with Epicurus' scientific logic; and according to A. Schiesaro (1987) Lucretius used rhetorical strategies under the influence of Roman forensic rhetoric.

It is easy to see that this misconception is a result of the notorious difficulty to determine what rhetoric exactly is—this problem deeply bothered Plato and loaded the term with negative connotations that survive to this day. Very few of the authors mentioned above provided an explicit definition of the term rhetoric.[38] Most of them used the term in its narrowest meaning, i.e., to refer to the prose genre used in the courts, assemblies, and public gatherings, and to the system of theoretical rules developed in connection with this genre. These theoretical rules, accumulated in ancient rhetorical manuals, actually articulate and systematically organize the observations that describe natural speech phenomena and their particular effects. The purpose of the manuals was to facilitate rhetorical education and to help the artificial production of speeches delivered in a courtroom, assembly, or festival. Thus the frequent references to *Rhetorica ad Herennium* or some similar handbook made by the authors mentioned above imply the external provenance of the rhetorical features in Lucretius' poem. What prevents this approach from yielding deeper insights is the misleading identification of rhetoric with a group of particular subjects to which it can be applied.

The second important misconception is the assumption that the rhetoric of *DRN* can only be connected with Epicurus' teaching in a very indirect, or in a strictly limited way. Explanations of Lucretius' rhetorical strategies which rely on Epicurean epistemology, on the influ-

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[36] G.B. Conte 1966, 358–360 had already pointed this out in connection with Lucretius.

[37] A general question would be, for example, "what is the shape of the world?" (*quae sit mundi forma?* Cic. *Inu.* 1.8). See below, pp. 22 and 142–143.

[38] As C.J. Classen pointed out in his discussion of Epicurean views on rhetoric, "rhetoric" was an ambiguous term already in antiquity: it was applied to political discourse, to arguing in general, to the use of language in general, and to literary studies (Classen 1968, 111).

ence of Epicurean method of inductive reasoning,[39] and on the influence of Epicurus' requirement for *clarity* (σαφήνεια), one of the four Theophrastean qualities of style,[40] belong to this second category. For example, P.H. Schrijvers (1970) explained Lucretius' procedure of announcing a thesis before it has been discussed through Epicurus' concept of *anticipation* (πρόληψις). Similarly, Schrijvers connected Lucretius' condensation of arguments into effective images with Epicurus' concept of *condensation* (πύκνωμα). (More persuasive is the section in which Schrijvers connects Lucretius' "diatribe" against love from the end of Book Four with Epicurean educational practice of guidance of the soul, ψυχαγωγία.)[41] G. Milanese (1987) examined the connection between Lucretius' argumentation in the light of Philodemus' explanation of Epicurean inductive method.[42] In his 1989 monograph *Lucida carmina* Milanese discussed the influence that Epicurus' insistence on clarity (σαφήνεια) exerted on Lucretius.[43]

In my opinion only an understanding of the term "rhetoric" which does not tie the systematic exploitation of certain natural speech phenomena to the particular *ethos* of courtrooms and assemblies can aptly accommodate the notion of *DRN* as a rhetorical phenomenon, and illuminate hitherto too narrowly explored connections between Lucretius and Epicurus. My position is not isolated, since a need for an approach based on a different understanding of the term rhetoric has already been voiced. E. Asmis (1983, 37) already employed the term rhetoric to Lucretius' argumentation "in the wide sense in which both philosophers and rhetoricians use linguistic artistry to plead their case". Concluding his recent discussion on Lucretius and rhetoric, G. Calboli (2003) pointed out that in *DRN* rhetoric is not used as a τέχνη, but as a "technicity" (a term used by D. Blank [1995]), i.e., that it is used not on a doctrinal, but on a purely instrumental level:[44] Lucretius' rhetoric is subordinated to demonstration, or, more precisely, clarification of Epicurus' philosophical ideas. Although these observations did not result in a fruitful expansion of the traditional horizon of research (Calboli's discussion retained a limited focus on clarity, σαφήνεια, as the only rhetor-

[39] As presented in Philodemus' *De signis*.

[40] D.L. 10.13. For clarity as Lucretius' literary *credo* see, e.g., Dalzell 1996, 36–39.

[41] Schrijvers 1970, 128–140; cf. idem 1969. The meditative aspect of the poem has been discussed in more detail by Clay 1983, 176–185, and Erler 1997.

[42] Milanese essentially confirms the observations of Kullmann, 1980.

[43] For other discussions see below, p. 88 n. 27.

[44] Calboli 2003, 204.

ical quality sanctioned by the philosopher), they clearly expressed the wish of the authors to relocate the rhetorical elements of *DRN* within a broader plan, and promoted an ideologically unmarked understanding of rhetoric, dissociated from the traditionally imposed limits of the prose genre and the ethical values that it entails.

Using these observations as starting points, I intend to reexamine here three important rhetorical aspects of Lucretius' poem. First, Lucretius' choice to present Epicurus' teaching in the form of didactic *epos*, and the possibility that this choice can be regarded as a rhetorical move that stems from the main programmatic goals set by Epicurus. Second, the questions of how Lucretius structured his poem, what rhetorical devices he used to make its content as transparent as possible, and how the patterns of exposition and organizing principles of *DRN* are related to the formal features of Epicurus' *On Nature*. Third, the question of how particular stylistic procedures in *DRN* support particular types of Epicurean philosophical arguments. In this last segment of the study I shall narrow my discussion down to the Aristotelian idea of rhetoric as a capacity of constructing plausible arguments.[45]

In conclusion, I shall argue that the rhetoric of Lucretius only enhanced the rhetoric of Epicurus, and that the rhetorical procedures that the two have in common belong to the category that I shall call *the rhetoric of explanation*. The procedures typical for this sort of rhetoric are used by philosophers, scientists, scholars, and teachers. On one hand, the main concern of this rhetoric is the formation and effective presentation of theoretical models that organize data into explanatory accounts; on the other hand, its goal is to facilitate the internalization of these explanatory accounts. It is by no means a mere accessory, but rather a technique of vital importance: its goal is not to throw dust in one's eyes, but to provide clear vision. The efficacy of this rhetoric, I shall argue, lies in its reductive nature—it seeks to reduce a vast multitude of phenomena to a minimum of important factors, and thus establish a hierarchy that can be easily internalized. We can see this principle at work in modern Darwinism, psychoanalysis, or Marxism. Rhetorical procedures typical for the rhetoric of explanation, I shall conclude, have particular importance in the teachings that promote *new hierarchies of values*, i.e., teachings based on a close connection between science and ethics.

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[45] *Rh.* 1.2.1, 1355b.

CHAPTER ONE

EPOS AND *PHYSIS*

At some point in time, Lucretius will have conceived the idea of presenting Epicurus' physics in the didactic form of an epic poem. This decision marked the date of the birth of *DRN*. But the choice that informed the conception of the poem was inherently problematic. It created tension between the content and the form that will strongly mark the poem and complicate its reception. In addition to this, the decision could easily be interpreted as an act of heresy: Epicurus himself had nothing but contempt for *epos*.

Epicurus' condemnation of epic poetry was motivated by two different reasons.[1] The first was the dominant role of Homeric poetry in traditional Greek education and culture. The strong link between Homeric poetry and education is obvious in testimonies such as Epicurus' advice to Pythocles, "Hoist your sail, dear boy, and run away from all culture" (Παιδείαν δὲ πᾶσαν, μακάριε, φεῦγε τἀκάτιον ἀράμενος),[2] and such expressions of his as "the rabble of poets" and "the idiotic statements of Homer" (ποιητικὴ τύρβη, Ὁμήρου μωρολογήματα).[3] The view presented by these statements was one of the basic tenets of the school. Metrodorus advised that one should not be embarrassed if one does not know on whose side Hector was, nor the first, nor again middle verses of Homer's poem (ὅθεν μηδὲ εἰδέναι φάσκων μεθ' ὁποτέρων ἦν ὁ Ἕκτωρ, ἢ τοὺς πρώτους στίχους τῆς Ὁμήρου ποιήσεως, ἢ πάλιν τὰ ἐν μέσῳ, μὴ ταραβήσῃς).[4] Epicurus questioned the fundamental role of Homeric poetry as an educational and cultural matrix on account of its content, namely myth. In the *Letter to Pythocles*, the principle of multiple explanations for certain natural phenomena is sharply contrasted with μῦθοι, i.e., single explanations.[5] Epicurus' energetic insistence on replacing the epic μῦθοι with philosophical λόγος is not original—it

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[1] I follow here Arrighetti 1998, 19–20, and *idem* 2003, 138.

[2] D.L. 10.6. See also Plutarch's explanation of Epicurus' sailing metaphor in light of Odysseus' avoidance of the song of Sirens (*Moral.* 15d).

[3] Plu. *Moral.* 1086f.–1087a.

[4] Plu. *Moral.* 1094e.

[5] E.g., 104 and 116.

continues a long tradition, beginning with Xenophanes, and reaching its apogee with Plato.[6] This whole tradition took the content of epic poetry, myth, as its defining property. Thus Aristotle: "there is nothing common to Homer and Empedocles, except their metre" (οὐδὲν δὲ κοινόν ἐστιν Ὁμήρῳ καὶ Ἐμπεδοκλεῖ πλὴν τὸ μέτρον).[7]

The idea that provided Epicurus' second reason for condemnation of poetry is the belief that poetry is an inadequate medium for philosophical discussion. It is implicit in Epicurus' reported remark that, although he would be the only one to converse correctly on music and poetry, the wise man would not actually compose poems (ποιήματά τε ἐνεργείᾳ οὐκ ἂν ποιῆσαι).[8] The idea simply reflects the conventions and the common practice of the time. Even the poetry of Empedocles was somewhat archaic in its own time, the first half of the fifth century, after the preceding Ionian philosophers had already transformed the language of philosophy from poetry to prose.[9] By the time of Epicurus, philosophy was largely confined to prose.

In the light of this evidence, Lucretius' combination of poetry and philosophy seems to reunite two worlds that were sharply separated by his teacher. The departure from the principles laid down by Epicurus is less puzzling only if one takes into account the changes of circumstance that intervened between the Greek master and his Roman pupil. Lucretius, who grew up more than two centuries after the death of Epicurus, was imbued in a different tradition, in which the relationship between the form and content of poetry was much looser, and λόγος and metre were not mutually exclusive. The tradition goes back to the practice of Empedocles and the views of the Sophists, illustrated by the following definition of Gorgias: "I regard and name all poetry as speech in metre" (ποίησιν ἅπασαν καὶ νομίζω καὶ ὀνομάζω λόγον ἔχοντα μέτρον).[10] Presumably, the view had been adopted by the Alexandrian scholars, Aristophanes of Byzantium and Aristarchus of Samos, and adopted in Roman literary theory.[11] The views that certain philosoph-

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[6] For an overview of the sources of philosophical critique of the theology of the poets in antiquity see Pease, n. ad *poetarum* at *Nat. deor.* 1.42. See also the discussion in Gale 1994, 6–84.

[7] *Po.* 1.1.11, 1447b.

[8] D.L. 10.121b (ἐνεργείᾳ Us. for MSS ἐνεργεῖν). Philodemus regarded the style prescribed by rhetorical handbooks as inappropriate for philosophy (*Rh.* 1.153–154 Sudhaus). Cf. De Lacy 1939, 86–87.

[9] Cf. Pöhlmann 1973, 843.

[10] 82 B 11 (9) DK.

[11] See Pöhlmann 1973, 820–825, Arrighetti 1997, 28–29 and 1998, 26–27.

ical truths can be expressed in poetry and that poetry can have an educational value were held by many Stoics.[12]

In Lucretius' immediate intellectual milieu, the best representative of this tradition is Aratus' *Phaenomena*, a didactic poem that enjoyed enormous success in Rome. *Phaenomena* stands under the spell of the Callimachean return to the Hesiodic vein of epic poetry, but in a new way: the poem is based on a scientific *Prosavorlage*, the works of Eudoxus (mostly the *Phaenomena*, but also *Enoptron*).[13] Lucretius' idea to present Epicurus' *On Nature* in verse is actually an offshoot of this metaphrastic didactic tradition.[14] In antiquity the main merit of Aratus, or any other poet who used the form of *epos* to present certain teaching, was seen in the virtuosity that he showed in putting the prosaic subject matter in epic diction,[15] and, as Cicero puts it, in *elevating* or *extolling* it by poetic skill.[16] This sort of undertaking, clearly epideictic in nature, was not an idle exercise. The *Phaenomena* of Aratus was a poem used as a school text, and its classicistic form of *epos* is essentially a function of the didactic purpose of the poet.[17]

Aratus' poem is the thread that leads our interpretation into the world of Hellenistic and Roman education; we shall remain in this world for a while, looking for the clues and possible explanations of Lucretius' choice of the form of *epos*. *DRN* is essentially an educational poem, and has been identified as a prime example of didactic poem providing earnest instruction.[18] Nevertheless, the way in which its form, and to a certain extent even its content, are related to the practice and the main features of the Hellenistic and Roman educational system has never been systematically discussed. I shall attempt here first to fill this lacuna in our understanding and interpretation of the poem as a whole, and then to use my observations to shed more light on the much discussed question of Lucretius' choice of the form of his text. I hope to show that Lucretius' choice of the form of *epos* was a sound

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12 See DeLacy 1948, 266–271.

13 See Kidd 1997, 14–18.

14 Cf. Toohey, 1996, 96.

15 Cf. Pöhlmann 1973, 833–835 on didactic poetry in general and 884 specifically on Nicander. Nicander's *Theriaca* and *Alexipharmaca* were most likely based on prose works of Apollodorus (see Gow-Schofield 1953, 18).

16 Cicero uses the verb *extulisse* (*De rep.* 1.21).

17 Cf. Marrou 1965, 277–279.

18 Effe 1977, 66–79.

rhetorical choice, firmly rooted in the educational background that he shared with his audience.

Epicurean Education and Traditional Education

Lucretius regarded Epicurus as a god (*deus ille fuit, deus!*),[19] and the claim is amply supported by the tradition of the school. Epicurus' followers did regard their teacher as something of a deity,[20] and their overall attitude to the founder of the school is most easily understood in terms of religious commitment.[21] After all, Epicurus promised his followers that they would live as gods among men,[22] and he himself achieved the closest approximation to divine ἀταραξία. But on the other hand, Lucretius' deification of his teacher mirrors the deification of Homer in the regular Hellenistic *curriculum*: "a god, not a man was Homer" (θεὸς οὐκ ἄνθρωπος Ὅμηρος), reads the inscription found on a wax tablet and an ostracon from Egypt, written by two school hands several centuries later.[23] This is not the only point at which Lucretius' imagery coincides with the images used in connection with traditional education. The comparison Lucretius used in his proem to Book Three of Epicurean students with bees also has parallels in other non-Epicurean educational contexts. Isocrates concludes his *Letter to Demonicus* encouraging those who pursue education to gather knowledge from all sources, just like bees collect honey flying from flower to flower;[24] in *De recta ratione audiendi* Plutarch also urges the youth to imitate the bees, avoiding the lectures that have the sweetness of violets, roses, and hyacinths, and searching for the useful ones that are like rough and bitter thyme, from which they will derive their honey.[25] Lucretius' description of himself as a bee deriving everything from

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[19] 5.8.

[20] Commemorative Epicurean gatherings in honor of Epicurus and Metrodorus emulated Athenian religious worship of Apollo by honoring the hero Eikadeus on the twentieth of each month. For religious cults among the Epicureans see Boyancé 1937, 322–327; Pease n. ad *uenerari Epicurum* at *Nat. deor.* 1.43; Clay 1983, 270–279 and 1986.

[21] Cf. Sedley 1989.

[22] Ζήσεις δὲ ὡς θεὸς ἐν ἀνθρώποις, *Men.* 135. Cf. Diog. of Oen. fr. 123.III.9–IV.10 Smith.

[23] P. Mich. VIII 1100. See also Cribiore 1996, catalogue numbers 200 and 209.

[24] 52.

[25] 40f.–42b. For discussion of the motif in the context of traditional education see Morgan 1998, 262–270.

and feeding upon the *aurea dicta* of Epicurus might also be connected with his famous apology, in which he compares his poem to a honeyed cup containing a bitter cure that doctors administer to children.[26] Once again, we find the same analogy in Plutarch, in *De liberis educandis*, where the author recommends that fathers combine their harsh rebukes with mildness, just like doctors, who mix bitter cures with sweet juices.[27]

Starting from these few intriguing points of similarity, I wish to expand the horizon of my discussion and continue with two informative accounts—first an account of traditional literary education, and then an account of Epicurean education in the Hellenistic and Roman periods. Laid out one after the other, these accounts should provide a clear view on the points of similarity and the points of contrast between the two systems, the points I shall build upon later. The two accounts will be selective, bringing attention to only the points which are relevant for the interpretation of *DRN*, i.e., for an understanding of the process by which the poem was composed, and the aims that motivated the poet.

Hellenistic Literary Education

At the heart of Hellenistic and Roman education lay the literary *curriculum*. The importance of the study of language and literature reflected the actual needs of the societies in which the system was created and used. The Greek élites that ruled Hellenistic kingdoms used literary education to preserve and perpetuate the existing structure of power and to integrate indigenous populations into the political structure. In Rome, the study of language and literature provided the upper class, whose responsibilities were constantly growing with the expansion of their power, with the skills necessary for participation in public affairs, such as the interpretation of law and mastery of public speaking. The link between language and power brought literary education to the center of the Hellenistic and Roman *curriculum*.

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[26] 1.935–950. Heinze 1897, 50 explained the image in light of the old comparison between the poet and the bee and the poem and honey. Schrijvers 1969, 373 and 1970, 36–37 n. 18 pointed out that the image is a typical metaphor for meditation in ancient psychagogic tradition. Waszink 1974, 22–23 observed that honey represents truth. Clay 2003 discussed the Platonic and pre-Platonic history of the metaphor.

[27] *Moral.* 13d. The analogy is characteristic for moral exhortation of the Hellenistic philosophical schools. See below, notes 75 and 80.

The goal of primary literary education was to train students to write and read, starting with the single letters of the alphabet, continuing with syllables, words, and sentences, and ending with continuous passages.[28] The skills of writing and reading would be developed further at the secondary stage, which was the province of grammar. Lessons in grammar consisted of the study of literary texts, mostly poetry.[29] Dionysius Thrax defined γραμματική as an empirical knowledge of the things generally said by the poets and prose authors; its six parts were correct prosodic reading, the explanation of poetic tropes, the immediate accounts of glosses and stories, the discovery of etymology, inference about analogical relationships, and the judgment of poems, the last one being the most refined part of the τέχνη.[30] For Varro, *grammatica* was the general knowledge of what the poets, historians, and orators had said; it had four functions, writing, reading, understanding, and approval,[31] or, according to another source, reading, explanation, correction, and judgment.[32] In general, grammarians derived their authority from the authority of the literary texts they interpreted.[33]

Elementary education in Rome was conducted in Latin, but many secondary teachers were Greeks and taught in Greek. We have evidence of the lively activity of a number of distinguished Greek *grammatici* during the Republic.[34] The literary education of Roman nobility was essentially bilingual, and Greek literature and Hellenistic methods formed the basis of the Roman secondary *curriculum*. Philosophical

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28 Marrou 1965, 229–238. Cribiore 2001, 169, points out that this schematic *ordo docendi* does not always correspond to our evidence of ancient practice, which shows that writing one's own name was also a common first step in learning.

29 The practice goes back to the Sophists, as we see from Plato's *Protagoras* (338e–339a). For the dominant role of poetry in the Hellenistic *curriculum* cf. Cic. *De or.* 1.187, id. *Diu.* 1.34, Suet. *Gramm.* 4, and Quint. *Inst.* 1.4.2.

30 Γραμματική ἐστι ἐμπειρία τῶν παρὰ ποιηταῖς τε καὶ συγγραφεῦσιν ὡς ἐπὶ τὸ πολὺ λεγομένων. Μέρη δὲ αὐτῆς ἐστι ἕξ· πρῶτον ἀνάγνωσις ἐντριβὴς κατὰ προσῳδίαν, δεύτερον ἐξήγησις κατὰ τοὺς ἐνυπάρχοντας ποιητικοὺς τρόπους, τρίτον γλωσσῶν τε καὶ ἱστοριῶν πρόχειρος ἀπόδοσις, τέταρτον ἐτυμολογίας εὕρεσις, πέμπτον ἀναλογίας ἐκλογισμός, ἕκτον κρίσις ποιημάτων, ὃ δὴ κάλλιστόν ἐστι πάντων τῶν ἐν τῇ τέχνῃ (1). The Τέχνη of Dionysius is in its present state a composite work, consisting of layers from different periods, but the first chapter comes from the authentic core, and thus goes back to 100 BC (see Lallot 1998, 25–26, and Cribiore 2001, 185).

31 *Ars grammatica… scientia est ⟨eorum⟩ quae a poetis historicis oratoribusque dicuntur ex parte maiore. Eius praecipua officia sunt quattuor, … scribere legere intellegere probare* (*GRF* 234). Cf. Cic. *De or.* 1.187; Quint. *Inst.* 1.4.2.

32 *Lectio enarratio emendatio iudicium* (Diom. 426.21–22 Keil, *GRF* 236).

33 Cf. S.E. *M.* 1.277.

34 For individual cases see Rawson 1985, 68 ff.

and especially rhetorical higher education depended even more heavily on Hellenistic Greek sources, as *Rhetorica ad Herennium* and Cicero's *De inuentione* testify. More eager students, including Atticus, Cicero, and Caesar, would simply go to Greece in order to complete their studies.

The most important individual author in the Hellenistic curriculum was Homer. This fact is amply confirmed both by the accounts of ancient authors and by the statistical results gained from the examination of the content of the school texts and exercises preserved on papyri.[35] A statistical analysis of the school texts on papyri shows that the *Iliad* was much more popular than the *Odyssey*, and that the beginning sections of the entire poems and of the individual books received more attention than the other parts; lists, descriptions, similes, and battle scenes received particular attention as well.[36] The next author in the Hellenistic curriculum in terms of popularity was Euripides, separated by a rather wide margin from the following author, Menander. The next two authors, Isocrates and Diogenes the Cynic, are represented on papyri only by gnomic material culled from their works.

Apart from the individual authors, secondary education was apparently centered on the use of gnomic texts, especially on the Greek side.[37] In fact, written exercises preserved on papyri confirm that gnomic literature was used in school far more than the texts of any individual author.[38] The purpose of the use of gnomes or maxims during the initial stages of education was twofold. While on one hand they served as a starting point for literary analysis and composition, on the other hand their content was considered to be most suitable for the moral upbringing of the students.

Along with exercises in interpretation and the evaluation of poetry, one would be gradually introduced to rhetorical studies and the technique of producing a speech. Since the educational system was not centralized, the border between grammar and rhetoric was not standardized and in practice rhetorical training probably started already in the school of grammarians.[39] This overlap was natural, since excerpts from poetry and gnomic material served as a starting point in the rhetorical education as well as in grammatical instruction.

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[35] Cribiore 1996, 49, and the catalogue in Cribiore 1997; Morgan 1998, 69 and tables 15, 13, and 19.

[36] See Morgan 1998, 105–109 and tables 11, 12, 20, and 21.

[37] See Morgan 1998, 122ff.

[38] See the catalogue in Cribiore 1997, and tables 15 and 13 in Morgan 1998.

[39] Cf. Patillon 1997, IX–IV.

A set of preparatory exercises, προγυμνάσματα, designed to teach prose composition, was used at this new stage. Although our first reference to some sort of preparatory exercises comes from the 4th cent. BC *Rhetorica ad Alexandrum*,[40] we know nothing about these texts. We reach safer ground when we get to late Republican Rome. Suetonius mentions the practice of teaching preparatory exercises in this time period, and his list includes most of the exercises we know in their standardized, later form.[41] One exercise he includes is specifically Roman, namely the translation from Greek to Latin. In addition to Suetonius, there is even more secure evidence for the use of preparatory exercises in the form known to us in Republican Rome. The author of *Rhetorica ad Herennium* describes the procedure of *tractatio* of a simple statement in several different ways, which correspond exactly to the methods of treatment (ἐξεργασία) of the *chreia* in our later sources.[42]

In their standardized form,[43] προγυμνάσματα comprised fable (μῦθος), narrative (διήγημα), *chreia* (χρεία), maxim (γνώμη), refutation (ἀνασκευή), confirmation (κατασκευή), general topic (κοινὸς τόπος), encomium (ἐνκώμιον), vituperation (ψόγος), comparison (σύγκρισις), speech-in-character (ἠθοποιία), description (ἔκφρασις), thesis (θέσις) and introduction of a law (νόμου εἰσφορά).[44] The exercises started from simple tasks, such as retelling classical literary passages (e.g., an anecdote, fable, or a story), and continued with more complex ones, in which material from epic poetry, tragedy, and other genres was manipulated for different purposes. The preparatory exercises led to the province of rhetors, i.e. to declamation, where one would be trained for extemporaneous composition and delivery of full-fledged speeches.

One good example of the type of skills that the exercises developed at different stages of education is the school use of the *chreia*, an action or saying attributed to a certain character or to its equivalent.[45] Being copied, memorized, delivered, and elaborated in a number of forms

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[40] 28.4, 1436a. The passage has been suspected as an interpolation, but there is no reason to doubt the existence of some sort of preparatory exercises at the time. Cf. Patillon 1997 XVI–XVII.

[41] The variation of notable sayings, recounting of fables, presentation of narratives, encomium, vituperation, thesis, confirmation, and refutation (*Rhet.* 25.4).

[42] *Rhet. Her.* 4.56–57.

[43] For a concise introduction and bibliography to the surviving works that transmit the system of προγυμνάσματα see Kennedy 2003, ix–xvi.

[44] This standard sequence is found in Aphthonius (4th cent. AD), but the sequence found in Aelius Theon (1st cent. AD) is not substantially different.

[45] Theon *Prog.* 96.19–21 Spengel.

of increasing complexity, the account of an action or saying spanned the whole course of education.[46] Aelius Theon provides a good illustration of the various uses of *chreia*. First, the student would recite it (ἀπαγγελία), saying, e.g., "Isocrates the rhetor said that a talented student is a child of god". Then the student would inflect the *chreia* (κλίσις), putting its characters into singular, dual, or plural, e.g., "Isocrates the rhetor said that a talented student is a child of god", "the two rhetors named Isocrates used to say that two talented students were two children of gods", and "the rhetors named Isocrates said that talented students were children of the gods". The same would be done with the inflection of the nouns of a chosen sentence in all the possible cases, e.g. "Isocrates said that…" (Greek nominative), "it is a saying of Isocrates that…" (Greek genitive), "it seemed fit to Isocrates to say that…" (Greek dative), and so on. More advanced treatment was commenting on the *chreia* (ἐπιφώνησις), i.e., adding to it a statement that the saying of Isocrates is true, noble, advantageous, or something similar. One could also object to the saying (ἀντιλογία) on opposite grounds. Next, *chreia* could be expanded by amplification (ἐπεκτείνωσις), and then compressed as briefly as possible (συστολή). Finally, *chreia* could be refuted (ἀνασκευή) as unclear, pleonastic, elliptic, impossible, implausible, false, inappropriate, useless, or shameful; it could also be confirmed (κατασκευή) with use of as many topics as possible—this sort of *chreia* would be developed into a whole speech.[47] The same sort of procedure was applied to the stories from epic poetry and tragedy, which would first be refuted, and then confirmed.

The rhetorical treatment of short excerpts from classical literature, and even whole classical passages, developed a capability in students to read the same literary material in different ways and use it for different purposes. As a result, the understanding of genres such as epic poetry became essentially rhetorical (while rhetoric in return assimilated a number of elements derived from poetry). In addition to this, the exercises in composition created a rich store of literary examples in one's mind, and provided the lexical, stylistic, and argumentative resources which could be used to present the same material in different ways. In general, the goal of the exercises was to lead one systematically through the stages of composition to the point at which the student

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[46] See the arrangement of evidence in Hock and O'Neil 2002.

[47] Theon *Prog.* 101.3–106.3 Spengel.

would master the technique of creative imitation, composing a speech extemporaneously, drawing from the thesaurus of models deposited in his memory.[48]

Epicurean Education

One might say that Epicurean education also exploited the link between language and power; but in contrast with the traditional education, it did not use the mastery over a certain kind of discourse as a mean of promotion up the social ladder and exerting power in the public sphere. Unlike in traditional literary training, where the ultimate goal was to introduce students to the world of politics, the goal of Epicurean education was to fortify the inner strength of students and turn them away from the turbulences of public life. Thus Epicurean education was in a way an inversion of traditional education. It had a considerable power to attract those who could not or did not want to enter a political career. It was open to everyone and conducted in small groups or communes, held together by the bond of friendship, and blended into society.[49] Epicureanism became unusually popular in Republican Rome;[50] one of the keys to its great success must be sought in the similarity of circumstances that connected this time period with the time period in which Epicurus formulated his philosophy. The social atmosphere produced by the disintegration of the culture of polis at the end of fourth and the beginning of the third century BC Greece has a close parallel in the social atmosphere of the collapsing republican constitution in first century BC Rome.

Just like in Hellenistic literary education, the Epicurean educational system was designed to lead an individual from the stage of passive internalization of the main principles to the stage of creative imitation. At this final stage the student would be able to reproduce the reasoning of Epicurus on any subject according to the received guidelines. As a result of this aim, memorization was the basic method in Epicurean

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[48] Cf. Webb 2001, 307–310. The declamations recorded by the Elder Seneca amply illustrate the mastery acquired by this training.

[49] Asmis 2001, 214.

[50] *Italiam totam occupauerunt*, says Cicero, describing the spread of Epicureanism in Rome after it was introduced to Latin readers by certain Amafinius (*Tusc.* 4.6–7). Cf. remarks in *Ad fam.* 15.16 and 19 (215 and 216 Shackleton Bailey); *Ac.* 1.5–6; *Tusc.* 2.7–8; *Fin.* 2.12. For Epicureanism in Rome see Gigante 1983, 25–34.

education.[51] Direct evidence for the importance that Epicurus gave to committing the essential principles to memory comes from his letters to Herodotus and Pythocles. These two letters expound the basic tenets of Epicurus's scientific, esoteric writings, and their pithy, hypomnematic style ensures that the presented material can easily be memorized. The importance of the firm grasp of the main principles is stressed in particular in the introductory and the concluding parts of each letter.

The *Letter to Herodotus*, an epitome of Epicurus' teaching on physics, is justified by two demands: first, some Epicureans are not able to study the entire work *On Nature* in detail; second, all Epicureans, including advanced students, need to have fixed in their mind an outline of the whole system broken into its essential elements. Advanced students also need to go back to this outline and rehearse it frequently, since this will help their understanding of the details.[52] Once in the course of his exposition Epicurus returns to this point.[53] The last section of the letter, devoted to celestial phenomena, ends with a warning against the sources of anxiety caused by μῦθος—fear of gods, and fear of death. Epicurus claims that the undisturbed state of mind (ἀταραξία) follows as a result of the memorization of the whole system and its main doctrines.[54] In conclusion, after stating that his purpose has been accomplished, Epicurus adds that the memorized outline will give the reader great strength, provide him with permanent help, and secure him a calm mind (γαληνισμός).[55] It is interesting to note that Epicurus uses the word τύπος for both the outline and the basic principles—a word that Aristotle used to refer to a mnemonic imprint.[56] Short sayings (βραχεῖαι φωναί) form the skeleton of the letter, e.g., "nothing comes out of nothing" (οὐδὲν γίνεται ἐκ τοῦ μὴ ὄντος), "the universe consists of bodies and void" (τὸ πᾶν ἐστι ⟨σώματα καὶ κενόν⟩, *suppl.* Gassendi), "the universe is infinite" (τὸ πᾶν ἄπειρόν ἐστι). Unlike the sayings of the poets, unsupported by proofs, these sayings are followed by brief proofs that appeal directly to our sense-experience.[57] Provided with the basic

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[51] Cf. Hadot 1969, Clay 1973, 275–280 (= 1998, 26–39) and 1983, 169–185; Asmis 2001.

[52] 35–36.

[53] 45.

[54] 81–82.

[55] 83.

[56] 45 and 68. Ar. *Mem.* 450a.

[57] For Epicurus' sayings versus the sayings of poets, ant the fact that, unlike poets, the philosopher based his principles on proofs, see S.E. *M.* 1.277–292.

tenets supported with main proofs, every student could test the truth of the vitally important doctrines and thus personally tread the path of Epicurus' reasoning.[58]

The same is true for the *Letter to Pythocles*. It is also justified by the young addressee's request for an account of celestial phenomena that is not difficult to memorize, and Epicurus explicitly recommends memorization of this epitome in addition to his epitome to Herodotus.[59] Concluding the letter, he once again urges his students to memorize his explanations: this is the way to escape μῦθος.[60] This overall purpose explains the frequent repetition of the main principles, in the same phrasing, such as for example "no phenomena witness against this" (οὐδὲ γὰρ τῶν φαινομένων ἀντιμαρτυρεῖ),[61] or a changed one, such as "all these explanations, and those cognate to them, are not in dissonance with anything that is visible" (πάντα γὰρ τὰ τοιαῦτα καὶ τὰ τούτοις συγγενῆ οὐθενὶ τῶν ἐναργημάτων διαφωνεί).[62] Figures such as *correctio*, homoeoteleuton, and isocolon also give more clarity to the main principles, e.g.,

καὶ ἡ θεία φύσις
πρὸς ταῦτα μηδαμῇ προσαγέσθω
ἀλλ' ἀλειτούργετος διατηρείσθω
καὶ ἐν τῇ πάσῃ μακαριότητι. (97)

and the divine nature—
let it not be introduced to these things
but let it be preserved free from work
and in complete blessedness.

Epicurus' last preserved work, the *Letter to Menoeceus*, is a protreptic, opening with a general exhortation to the study of philosophy.[63] The letter contains a brief account of Epicurus' ethics. The message that connects its introduction and conclusion is that one must study (μελετᾶν) the elements of the good life, which is a condition of happiness. Epicurus promises that the studies will ward off any disturbance, day and night, and allow one to live like a god among men.[64] The letter is written in a distinctively literary style, marked by avoidance of hia-

[58] Cf. Asmis 2001, 217–218.
[59] 84–85.
[60] 116.
[61] 92.
[62] 93.
[63] 122.
[64] 123 and 135.

tus, and by elaborate rhythm and periods.[65] The rhythmic structure of sentences, for which Epicurus was apparently well known,[66] could certainly help memorization. Two well-known examples, adduced first by E. Norden, are:[67]

μὴτε νέος τις ὢν	– ⏑ ⏑ – ⏑ –	
μελλέτω φιλοσοφεῖν	– ⏑ – ⏑ ⏑ ⏑ –	
μὴτε γέρων ὑπάρχων	– ⏑ ⏑ – ⏑ – –	
κοπιάτω φιλοσοφῶν	⏑ ⏑ – – ⏑ ⏑ ⏑ –;	(122)

and

θεοὶ μὲν γὰρ εἰσίν·	⏑ – – ⏑ – ⏑	
ἐναργὴς γὰρ αὐτῶν	⏑ – – ⏑ – –	
ἐστιν ἡ γνῶσις	– ⏑ – – ⏑.	(123)

Diogenes Laertius concluded his account of Epicurus' philosophy with the collection of κύριαι δόξαι, as a crown (κολοφών) of his whole work. This is a collection of Epicurus' gnomic sayings, prepared by him personally, or by his disciples.[68] The number of such gnomic sentences in circulation among the Epicureans was greater than the number contained by this collection, as we see from the so-called *Vatican Sayings*.[69] All the sayings were meant to be memorized, as Cicero's address to Torquatus suggests: *quis enim uestrum non edidicit Epicuri* Κύριας δόξας, *id est quasi maxime ratas, quia grauissimae sint ad beate uiuendum breuiter enuntiatae sententiae?* (for is there anyone among you who did not learn by heart Epicurus' Sovereign Doctrines [*Kyriai doxai*], called so as if most imposing, because they are brief sayings of most weighty authority for happy living?).[70] Indeed, many gnomic sayings from this collection, with some exceptions,[71] display a notable *breuitas*. Some combine this quality with

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65 See Usener 1887, XLI–II. For Epicurus' style in general see Norden 1909, 1.123–125; Schmid 1962, 708–714; and Schenkeveld 1997, 206–209.

66 Theon *Prog.* 71.11–17 Spengel. Theon's quotations from Epicurus were reconstructed from the Armenian tradition of the προγυμνάσματα, and thus do not permit metrical analysis. Athenaeus, on the other hand, accused Epicurus of the lack of rhythm, ἀρρυθμία (187c). It is reasonable to assume that, like many other ancient authors, Epicurus was able to vary his style in different works.

67 Norden 1913, 93.

68 This is a controversial question. Usener 1887, XLIV–LI did not think that the collection was prepared by Epicurus.

69 Discovered in 1888 in a MS. containing Marcus Aurelius, Epictetus and other similar works (Cod. Vat. gr. 1950).

70 *Fin.* 2.20.

71 E.g., 10, 20, 24, 37, 38, 29, 40.

an outstanding clarity of structure achieved by *isocola* and *homoeoteleuta*, and even include poetic words, e.g., ἀβληχρόν in

> Πᾶσα ἀλγηδὼν εὐκαταφρόνητος·
> ἡ γὰρ σύντονον ἔχουσα τὸ πονοῦν
> σύντομον ἔχει τὸν χρόνον,
> ἡ δὲ χρονίζουσα περὶ τὴν σάρκα
> ἀβληχρὸν ἔχει τὸν πόνον. (*SV* 4)
>
> All pain of body can easily be despised:
> for that which brings intensive affliction
> has brief duration,
> and that which lasts in the flesh
> has feeble affliction.

This clarity of structure was imitated in Latin translations—cf. *si grauis leuis, si longus leuis* (short if strong, light if long).[72] Some sayings of Epicurus are also marked by vivid figurative expressions, such as "for other things it is possible to acquire security, but as far as death is concerned all of us humans inhabit a city without walls" (πρὸς μὲν τἆλλα δυνατὸν ἀσφάλειαν πορίσασθαι, χάριν δὲ θανάτου πάντες ἄνθρωποι πόλιν ἀτειχίστον οἰκοῦμεν),[73] and "friendship dances around the world announcing to all of us to wake up to her blessing" (ἡ φιλία περιχορεύει τὴν οἰκουμένην κηρύττουσα δὴ πᾶσιν ἡμῖν ἐγείρεσθαι ἐπὶ τὸν μακαρισμόν).[74]

In traditional education, the process of learning and the progress of individual students were supervised by hired teachers. In Epicurean education, this institution was replaced by the system of personal spiritual guidance, based on friendship. Philodemus in his *On Frank Speech* describes the relationship between the guide and the trainee in terms of the analogy which is one of the favorite commonplaces in popular philosophical discourse: the guide is like a doctor, and the trainee like a patient; in their relationship, speech takes on the role of a drug (φάρμακον).[75]

Overall, Epicurean education was clearly articulated vis-à-vis the model of traditional education. Elements such as the use of gnomic sayings in the first stage of education, insistence on the process of memorization, the literary form of the material used for teaching pur-

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[72] Cic. *Fin.* 2.22.

[73] *SV* 31.

[74] *SV* 52.

[75] For the analogy see Gigante 1975 and 1983, 75–78; Konstan et al. 1998, 20–23. For a detailed discussion of the relationship see Glad 1995, 101–160 and Asmis 2001, 223–238.

poses, and the ultimate stage at which the student would be ready to reenact the reasoning of the teacher thanks to an internalized set of models, show a certain degree of formal similarity between Epicurean education and traditional literary education.[76] But what the Epicureans offered was an improved version of the traditional system. Having adapted a number of traditional teaching methods to their own needs, they kept the vessel, but replaced its contents. Instead of studying the maxims from Menander or Isocrates, an Epicurean trainee committed to memory the sayings of Epicurus; instead of elaborating μῦθοι, he meditated on the basic principles of Epicurean physics, canonic, and ethics; instead of using his education to gain power over others, he sought to gain power over himself.[77]

Lucretius as a Teacher

Another important element in Epicurean adoption and revision of the features of traditional education was the process of generating and maintaining a net of teacher-student relationships.[78] Epicurus, who claimed to be a self-educated philosopher, established his authority as a teacher among his closest followers on the basis of his teaching activity, conducted in the recognizable vein of philosophical instruction. His crucial work, *On Nature*, was a series of recorded lectures, circulated in the manner in which Aristotle's lectures were circulated within the Peripatetic school. But when in his protreptic writings, as we have seen, Epicurus used a literary form of expression characteristic of traditional education, he intentionally adopted some of the features of the *persona* of a traditional teacher. This type of move was imitated by Lucretius, who, as a translator, faced the considerably more difficult task of establishing his authority. Thanks to his choice of the form of didactic *epos*, he was in a position to make a bolder step in this direction. Unlike Epicurus, who acquired his teaching *persona* on the basis of his real-life teaching activity, Lucretius seems to have created his *persona* of a teacher as literary fiction, sanctioned by the didactic poetic convention

[76] Cf. Asmis 2001, 222.

[77] Rabbow 1954, 127–130 saw the origin of meditation in Christian spiritual guidance (*Psychagogie, Seelenführung*), embodied in *exercitia spiritualia* of Ignatius de Loyola, in Epicurus' systematic employment of memorization.

[78] For the teaching hierarchy among the Epicureans see Asmis 2001, 224–226.

of teacher-student constellation.[79] But not only the author of *DRN* is a rhetorical construct; the same can be said for the reader of the poem.

In two programmatic passages in *DRN*, both based on protreptic commonplaces, Lucretius imposes on his reader the role of a child. First, in the famous apology in Book One, the readers, just like children, are deceived in their naïveté by the sweet honey of the poetry, thanks to which they take in the bitter medicine of Epicureanism. The deception does not harm childish readers—on the contrary, it restores their health.[80] Second, in the transitional formula repeated in Books Two, Three and Six, all men, filled with wrong beliefs, are compared to children trembling in the dark. Their fears are irrational, produced by the darkness of ignorance. The darkness, announces Lucretius, will be dispelled by perception of and reasoning about nature, i.e., by Epicurean physics.[81] The fact that both comparisons are common motifs in popular philosophical lectures suggests that Lucretius used them to motivate readers to complete their intellectual growth, inhibited by their stubborn refusal to abandon their remaining childish beliefs. The reader is thus a child only in the sense of being an Epicurean novice.[82]

Lucretius' programmatic incentives exploit an already existing associative link between poetry and puerility, established by the dominant role which poetry, and especially the poetry of Homer, played in traditional Greco-Roman education. The idea that pleasure provided by poetry is in essence childish is used by Cicero's Torquatus in his defense of Epicurus against the charges of a lack of education. Turning the charge against the accusers, Torquatus pointed out that Epicurus did not have time for the *puerilis delectatio* (childish amusement) produced

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79 This of course does not exclude the possibility that Lucretius actually taught or acted as a guide in an Epicurean community. The teacher-student constellation is a traditionally recognized feature of the didactic *epos* (e.g., Pöhlmann 1973, 836ff.), and it was recently used by K. Volk as one of the grounds for promoting didactic to the status of a genre in its own right (Volk 2000).

80 1.936–941 (= 4.11–17). The therapeutic force of *logos*, heavily exploited by Epicureans (see above, p. 28, n. 75), was also a commonplace in Cynic and Stoic protreptic tradition (e.g., Cic. *Tusc.* 4.23 and Epict. 3.23.30–31). The image comes from early Greek poetry (e.g., Hom. *Il.* 9.502–509, and Pi. *N.* 8.49–51), whence it makes its way into philosophical tradition (e.g., Democritus 68 B 31 DK, and Plato *Gorg.* 464a–465e). Cf. Nussbaum 1986, 52–53.

81 2.55–61 (= 3.87–93; 6.35–41). For discussion of the commonplace nature of the comparison between those who lack philosophical education and children, see Wallach 1975, 57–58.

82 Cf. Kleve 1979, who argues that the fact that Lucretius restricted himself to physics shows that he wrote *DRN* as a course for Epicurean beginners.

by poetry, and that he did not deem it appropriate to pursue throughout his whole life the studies which one should normally complete as a child.[83] But the belief that poetry and myth are puerile was not exclusively Epicurean. Cicero, criticizing Epicurean stock arguments against the poetic myths about the Underworld, asks whether there is even an old wife who would believe in these stories.[84] Lucretius' comparisons rely on a view that is accepted and common both among Epicurean and non-Epicurean audiences.

The association between poetry and the education of youth has a particularly deep resonance in the history of Roman literature. Educational purposes motivated the most important works of the fathers of Roman poetry. Both Livius Andronicus and Quintus Ennius were teachers of Greek and Latin literature, and their poems provided adequate texts for school instruction in Latin.[85] Andronicus' Latin translation of the *Odyssey* was a very important step in placing Roman education firmly on Hellenistic ground. Ennius' *Annals*, the national poem of Rome, provided a school reading which was replaced only by Virgil's *Aeneid*. As M.L. Clarke put it, "one might indeed almost say that Latin literature owed its origin to 'grammar' ".[86]

This background reveals the full extent of the aspirations that motivated Lucretius' famous passage in Book One, in which the author promises to give a true account of the nature of the soul and dispel the ignorance perpetuated by Ennius' *Annals*, where one paradoxically finds both the doctrine about the transmigration of souls and the view that after death souls visit the underworld.[87] The proem to the *Annals* described how Ennius, having fallen asleep on the mountain of Muses, was visited in his dream by Homer. The great Greek poet declared that Ennius was his reincarnation. According to Lucretius, on this occasion Homer instructed his Roman successor on the subject of nature, *rerum naturam*. As O. Skutsch pointed out, Lucretius' paraphrase suggests that Homer's instruction in *Annales* actually contained more than a brief exposé of the teaching about the migration of the souls.[88]

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[83] Cic. *Fin.* 1.72.

[84] *Tusc.* 1.48; *Nat. deor.* 2.5. For incantations of mothers and nurses as a source of the religious beliefs of children cf. Plat. *Leg.* 887d.

[85] Suet. *Gramm.* 1.2. For Ennius, see also Lucil. 1210; Hor. *Epist.* 2.1.50–52.

[86] Clarke 1971, 19.

[87] 1.112–126.

[88] See Skutsch 1964, 87–89 (= 1968, 105–109), and 1984, *ad* I, vi. Volk (2002, 106) suspects here "an exaggeration".

The ambitious setting of Ennius' scene must be seen in the light of Callimachus' encounter with the Muses in his programmatic proem of the *Aitia*, which was in turn an imitation of Hesiod's proem to the *Theogony*. Each statement in this chain is an act of literary emancipation, sanctioned by an appeal to the authority of an already established poetic tradition. While Callimachus was reviving the Hesiodic vein of epic poetry, refusing lofty Homeric themes, Ennius' fashioning of himself as a reincarnation of Homer distanced in turn his work, as a Roman national poem, from the work of the Alexandrians. And although the *Annals* is essentially a poem about war, Ennius' invocation of the spirit of Homer is not exclusively based on literary affinities that the poem had with the *Iliad*. Just like *DRN*, the *Annals* was apparently an experimental poem, which presented the subject matter of history in epic form (it is not really clear how Ennius dealt with such conventional features of Homeric poetry as mythological elements). The imaginary encounter with Homer was a result of Ennius' wish to appropriate the authority of *the* Greek poet and use it to sanction his project of literary and cultural emancipation.

Lucretius' association of his subject matter with the name of Ennius, and that of Homer, was likewise motivated by his wish to appropriate the established vein of poetic authority and use it to empower his project of cultural revision. Lucretius appropriated this authority by promising a true account, one that will supersede the accounts of his predecessors, all couched in supernatural circumstances.[89] The network of relationships that Lucretius develops leads thus from the poet's initial recognition of thematic affinities with Ennius to his conclusive declaration of debt to Epicurus: in Book One it was Ennius, the reincarnation of Homer, who was the first to bring the poetic crown down from Helicon to the Italian nations; next, again in Book One, Lucretius was the first to tread the Callimachean untrodden paths[90] and acquire a crown made of new flowers by versifying the difficult philosophical system of Epicurus; finally, in the proem to Book Three it is Epicurus who turns out to be the guide in whose footsteps Lucretius planted his own.[91] The progress was well-planned in terms of the student's gradual ascent to

[89] Cf. Kenney 1970, 372–380.

[90] *Aet.* I fr. 1.25–28 Pfeiffer; for discussion see Kenney 1970, 370 and Brown 1982, 80–82.

[91] For discussion of the curious combination of the *primus* motif and imitation of a Greek predecessor see Volk 2002, 114–115.

the truth: Ennius is overshadowed by Lucretius, who eventually introduces Epicurus as his literary predecessor, describing him as a father (*pater*),[92] as a poet (*cycnus*), and as a priest uttering prophecies (*uociferari*).[93] In this way it is Epicurus who finally replaces the divinely inspired poets, traditional educators of the mankind.[94] This characterization of Epicurus enabled Lucretius to connect his two concurrent lines of descent, one leading from Ennius, with the figure of Homer as the founder, and another leading from Epicurus. The well-planned characterization of Epicurus as a poet and prophet sanctioned Lucretius' poetic activity, making it look thoroughly Epicurean.[95] In Book Five, it is Lucretius who pours forth oracles.[96]

Lucretius thus shaped his teaching *persona* with the help of the names of Homer, Ennius, and Epicurus. This complex lineage endowed it with an almost absolute authority. Only such an authority could match the scope of the poem, which was composed as the only true account of the whole universe. And after expectations were set so high, the reader has not been betrayed. The poem connected the skeleton of Epicurus' *dicta* with the flesh of poetic elaboration in an organic way, preserving the values of both traditional and Epicurean education, or rather making the values of traditional education look like a supporting structure for Epicurean values.

[92] On the challenge that Roman philosophers and rhetoricians launched to the paternal authority of traditional Roman teaching voice, see Schiesaro 2003.

[93] 3.1–17. Epicurus compared himself to a prophet in *SV* 29; Athenaeus made the same comparison in an epigram preserved by Diogenes Laertius (10.12); Cicero reported that Κύριαι δόξαι were called *quasi oracula sapientiae*, and called Epicurus' teaching that what happens after death is not of our concern *quasi oraculum* (*Fin.* 2.20 and 102); for further references see Pease, n. ad *oracla fundo* at *Nat. deor.* 1.66. Balbus uses a comparison with poets and prophets to discredit the teachings of the opponents (Cic. *Nat. deor.* 1.42; cf. *Fin.* 4.10). Divine and poetic inspiration are traditionally connected, e.g., by Democritus DK 68 B 21, Aristotle *Rh.* 3.7 1408b. For Epicurus' use of the language of religious awe and Lucretius as his successor see Bignone 1973, 2.30–34 (= 1936, 2.367–371); the element of religious awe in Lucretius was explored most comprehensively by Schrijvers in his *Horror ac divina voluptas* (1970).

[94] On ancient poets as educators see discussion in Dalzell 1996, 9–11.

[95] Cf. the convincing discussion of Volk, 2002, 105–118.

[96] 5.110–112. Lucretius had already granted the title of prophet to the Presocratics in Book One (736–739), especially to Empedocles (731–732).

DRN as an Educational Poem

The sort of amalgamation Lucretius achieves on the level of his teaching *persona*, combining the figure of a philosopher/teacher and the figure of a poet/teacher, is no less present in the manner of his entire exposition, which transposes the immediacy of Epicurus' real-life lectures to the world of poetic fiction. The entire project of *DRN* is based on the idea of combining the content of Epicurus' philosophical system with the form and language of the texts that formed the institution of traditional literary education.

We have seen that in the regular Hellenistic curriculum the poems of Homer were not studied in their entirety; the most popular material comprised the opening sections of the poems and of individual books, along with selected passages, such as elaborate similes.[97] This common human frailty in studying texts might have been on Lucretius' mind when he gave special attention to certain portions of *DRN*. The first two books of the poem lay down the most important principles, and as such could stand as a *pars pro toto*. In each book the most elaborate part is the opening; each proem, composed in epideictic vein, is actually a carefully executed protreptic, encouraging the reader to proceed on his path towards the ultimate goals of Epicurean philosophy. Finally, in accordance with both the tradition of didactic *excursus*[98] and the rhetorical principle of *uariatio*,[99] interspersed among the argumentative sections we find a number of exquisite poetic miniatures.

The first proem is the best illustration of the way in which Lucretius exploited the beginning as the most prominent position in the poem to subordinate the system of values established by traditional education to the system of values set forth by Epicurus. This subordination is done in a very subtle way, through the poetic synthesis of three different components, namely the Venus of traditional Roman religion, the Epicurean concept of pleasure, and the Empedoclean attraction as a natural force. Already in the first line the two traditional epic epithets *Aeneadum genetrix* (parent of Aeneas and his race), are immediately modified by the phrase *hominum diuomque uoluptas* (pleasure of men and gods). The phrase is charged with Epicurean connotations, for *uoluptas*

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[97] See above, p. 22 and n. 41.

[98] Cf. Dalzell 1996, 22–23.

[99] For the principle see *Rhet. Her.* 4.16. On *uariatio* in the argumentative sections of *DRN* cf. Classen 1968, 92–95.

is the standard Latin word for Epicurus' ἡδονή.[100] This philosophically pregnant image of Roman Venus is developed further in the following lines: the invocation continues with a vivid description of the power of Venus to lead to procreation through pleasure (10–20); on account of this power, the goddess is invited to be the poet's ally in his procreation of the poem, and then to placate Mars (a metonymy for war) so that both the poet and his addressee, Memmius, may devote their time to the study of Epicurean philosophy (21–43); enjoying peace is a divine privilege, concludes Lucretius—divine of course in Epicurean sense of the term (44–49).

The invocation of the goddess is thus also a protreptic invitation for the reader to set off on an Epicurean escape from the turbulence of war and politics to the pleasant port of a private study shared with a friend. This invitation is a thoroughly Epicurean feature—the proems to Epicurus' letters are essentially protreptics. But Lucretius' Epicurean message includes the commonplace Roman idea of peace as a condition for *otium* and literary studies, and his protreptic invitation is couched in the language of a kletic hymn, belonging to the realm of the traditional cultural matrix the poet wishes to revise. The epic vocabulary and phrasing, and the elements of hymnic invocation, such as *Du-Stil*, relative clauses, and praise and petition as traditional elements of prayer, could be (and actually are) used as excellent illustrations in literary instruction. We may also add to this rich repertory the symbolic scene in which Mars reclines in the lap of Venus as a nice example of *ecphrasis*:[101] the presence of the word *amor* makes it very likely that Lucretius based his description on an actual painting, representing Venus and her lover, with Cupid hovering over their heads.[102]

Traditional metre, diction, themes and other plastic features of the opening facilitate its memorization. But the combination of the traditional poetic elements and the ideas inciting to Epicurean philosophy shows that facilitating memorization was not the author's only goal. To be able to profit from this passage, an Epicurean student will have to engage in the additional work of unpacking and interpretation.[103] The

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[100] Cic. *Fin.* 2.12. Cf. Bignone 1973, 2.136–144 and 427–443; Boyancé 1963, 65–68.

[101] *Ecphrasis*, as we have seen, was one of the more advanced preparatory exercises in prose composition (above, p. 22).

[102] 1.34; see Jacobson 1970.

[103] Erler 1997, 88–92, who pointed this out, used the word *meditation*. For interpretation of Epicurus' works within the school see Erler 1996. For a Stoic parallel, cf. Epictetus' explication of the works of Zeno and Chrysippus.

Epicurean character of the central ideas offered at the beginning of the poem becomes obvious only through patient examination and analysis of its complex, symbolic images.[104] Through the way in which he composed the proem to *DRN*, Lucretius put the skills of literary interpretation and exegesis in the service of Epicurean education.

In the section that describes the sacrifice of Iphigenia, another memorable *ecphrasis* in the first proem,[105] Lucretius uses both the form and content of traditional school material to undermine traditional beliefs and hammer in one of the central tenets of Epicurean teaching. In this particular passage Lucretius exploits the emotional appeal of poetry in a remarkable way. The passage describes Iphigenia standing in front of the altar in Aulis, at the moment in which she grasps that she has been brought there to be murdered by her own father; in that moment her knees buckle in fear and she falls on the ground speechless. The vividness of the scene does not only create an impressive mnemonic icon, but also provokes *pathos*, heightened by elevated poetic diction, colorful expressions such as *muta metu* and *casta inceste*, and *double entendre* in the language that can be used both for wedding and sacrifice (*nam sublata uirum manibus tremibundaque ad aras* | *deductast*).[106] The emotional response that Lucretius elicits forcefully moves the reader from the traditional to the Epicurean point of view, namely that the traditional idea of religious worship is impious. Once again, literary technique paved the way to an Epicurean revelation. Here we see perhaps one of the finest examples of Lucretius' departure from Epicurean methods of persuasion: while Epicurus despises the emotional turbulence caused by poetry,[107] the medium of *epos* allows Lucretius to integrate the task of moving his audience within his primary task of teaching.

The Iphigenia episode is a highly elaborated description in high poetic register, but it essentially functions as a proof.[108] It foreshadows the strings of proofs, usually composed on a lower stylistic level, which will constitute the argumentative bodies of individual books.

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[104] The interpretative results of modern criticism are the best illustration of how contemplation on the literary aspects of *DRN* leads towards understanding of its philosophical content.

[105] 1.84–100.

[106] 1.95–96.

[107] According to Sextus Empiricus *M.* 1.298, Epicureans regarded poetry as "a bastion of human passion" (ἐπιτείχισμα γὰρ ἀνθρωπίνων παθῶν ἡ ποιητικὴ καθέστηκεν).

[108] See below, p. 132.

These proofs will be tied to particular scientific principles: following the true philosophical tradition, Lucretius' poetry replaces the traditional, not proven sayings of poets with philosophical principles—Epicurean elementary propositions (στοιχειώματα) or *dicta* (φωναί)—supported by proofs. These proofs are presented in a way which coincides with the patterns documented in the school exercises of prose composition. The central parts of individual books consist of a series of principles, and each of these principles, treated as a *dictum*, has been elaborated in a short essay. Some introductions to individual essays give a clear indication that the principles under discussion were meant to be memorized, e.g.,

> *Illud in his obsignatum quoque rebus habere*
> *conuenit et memori mandatum mente tenere,*
> *nil esse, in promptu quorum natura uidetur*
> *quod genere ex uno constat principiorum,*
> … (2.581–584)
>
> This also herewith you would do well to guard sealed[109] and treasured in memory, that there is none of those things which are in plain view before us which consists only of one kind of element…

The structure of each section resembles very much the structure of an advanced *chreia*, in which the saying that is about to be discussed is announced first, and afterwards it is either proven or refuted by carefully composed and arranged arguments.

Let the elementary principles (στοιχειώματα) that constitute the argumentative part of Book One suffice as an example of this procedure.[110] After the proem, we begin with the first important doctrine, *nullam rem e nilo gigni diuinitus umquam* (that no thing is ever by divine power produced from nothing).[111] The line corresponds of course to Epicurus' "nothing comes into being from that which does not exist" (οὐδὲν γίνεται ἐκ τοῦ μὴ ὄντος).[112] The claim is then proven at length by a number of arguments supported by appropriate examples.[113] These include vivid presentations of the natural phenomena that confirm the law, and

[109] Lucretius' *obsignatum* renders Epicurus' τύπος, the mnemonic imprint understood as a seal. See above, p. 25 and n. 56.
[110] For a list of ten corresponding στοιχειώματα in Epicurus' *Letter to Herodotus* and Lucretius' *DRN* cf. Clay 1973, 260–261 (= 1998, 12), and 1983, 55–56 and 267–279.
[111] 1.150.
[112] *Her.* 38.
[113] 1.151–214.

also grotesque consequences of its contrary. In the following section the poet deals with the complementary part of this same claim: *quidque in sua corpora rursum | dissoluat natura neque ad nilum interemat res* (that nature resolves everything again into its elements, and does not reduce things to nothing).[114] This part translates Epicurus' second principle that nothing perishes "into that which does not exist" (εἰς τὸ μὴ ὄν).[115] A series of proofs supports this claim, again including masterful descriptions of visible phenomena.[116] Next, the existence of atoms is introduced: *accipe praeterea quae corpora tute necessest | confiteare esse in rebus nec posse uideri* (learn in addition of bodies which you must yourself of necessity confess to be numbered amongst things and yet impossible to be seen).[117] The following series of proofs includes the famous simile comparing torrents of wind to torrents of water, and a number of other supporting descriptions.[118] Then, the existence of void is introduced: *nec tamen undique corporea stipata tenentur | omnia natura; namque est in rebus inane* (yet everything is not held close and packed everywhere in one solid mass, for there is void in things).[119] The claim is supported by a series of visible phenomena; one section is devoted to the refutation of the contrary view, based again on tangible images from nature.[120] Next, the preceding two points are restated in a way that reflects Epicurus' "everything consists of bodies and void" (τὸ πᾶν ἐστι ⟨σώματα καὶ κενόν⟩, *suppl.* Gassendi):[121] *omnis ut est igitur per se natura duabus | constitit in rebus; nam corpora sunt et inane* (the nature of the universe, therefore, as it is in itself, is made up of two things; for there are bodies, and there is void).[122] The principle is then supported by proofs that there is no third element in nature.[123] Everything else falls into two categories, namely properties or accidents of the two: *nam quaecumque cluent, aut his coniuncta duabus | rebus ea inuenies aut horum euenta uidebis* (for whatsoever things have a name, either you will find to be properties of these two or you will see them to be accidents of

[114] 1.215–216.
[115] *Her.* 39.
[116] 1.217–264.
[117] 1.269–270.
[118] 1.271–328.
[119] 1.329–330.
[120] 1.370–397.
[121] *Her.* 40. Gassendi's supplement is actually based on Lucretius 1.420 (and Plut. *Moral.* 1112e).
[122] 1.419–420.
[123] 1.422–448.

the same).[124] After some concrete examples of the two categories have been given,[125] we return to the subject of bodies:

> *Corpora sunt porro partim primordia rerum,*
> *partim concilio quae constant principiorum.*
> *sed quae sunt rerum primordia, nulla potest uis*
> *stinguere; nam solido uincunt ea corpore demum.* (1.483–486)
>
> Furthermore, bodies are partly the first-beginnings of things, partly those which are formed by union of the first-beginnings. But those which are the first-beginnings of things no power can quench; they conquer after all (sc. assaults) by their solid body.

These claims reflect Epicurus' division: "bodies fall in two groups, compound bodies and those that enter compounds; the latter are indivisible and unchangeable" (τῶν σωμάτων τὰ μέν ἐστι συγκρίσεις, τὰ δ' ἐξ ὧν αἱ συγκρίσεις πεποίηνται· ταῦτα δ' ἐστιν ἄτομα καὶ ἀμετάβλητα).[126] This section brings proofs that atoms are indivisible as deductions from previously established principles.

The next section in the argumentative body of the book consists of the claims of other philosophers that need to be refuted. The first part is devoted to Heraclitus' teaching that fire is the first-element: *quapropter qui materiem rerum esse putarunt | ignem atque ex igni summam consistere solo…* (therefore those who have thought that fire is the original substance of things, and that the whole sum consists of fire alone…).[127] Next, the Presocratic philosophers who held similar views are refuted, one claim after the other.[128] At the end of the section, the homoeomeria of Anaxagoras is refuted: *nunc et Anaxagorae scrutemur homoeomerian…* (now let us also examine the homoeomeria of Anaxagoras…).[129] The arguments of these philosophers are tested against already established principles, and rejected as being incompatible with them.

After his famous apology, a "proem in the middle", Lucretius devotes the first half of the remaining part of the book to proofs for the claim that the universe is infinite (Epicurus' τὸ πᾶν ἄπειρόν ἐστι): *omne quod est igitur nulla regione uiarum | finitumst* (the universe then is not limited along any of its paths).[130] Finally, the book is closed with the refutation

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[124] 1.449–450.
[125] 1.451–482.
[126] *Her.* 40–41.
[127] 1.635 ff.
[128] 1.742 ff.
[129] 1.830 ff.
[130] 1.958 ff.

of the claim that matter presses towards the middle: *illud in his rebus longe fuge credere, Memmi, | in medium summae quod dicunt omnia niti* (one belief concerning these matters, Memmius, you must avoid and keep afar: that, as some say, all things press towards the centre of the whole).[131]

Lucretius' *dicta* build a system in which new principles are derived from the ones already established. Thus, in the books that follow Book One sometimes we do not find the main proposition placed at the very head of the essay, because it is preceded by an introduction the aim of which is to connect the proposition to the previous doctrines.[132] But this does not happen very often, and in the majority of argumentative segments of the poem the steps of Epicurus' argumentation are cast in a way that evokes the principles of composing a *chreia*.

According to the principle of *uariatio* that has already been mentioned, the tone of the argumentative sections in *DRN* is frequently colored by passages in which the poetic register is unexpectedly heightened, such as the famous encomiastic *ecphrasis* of Sicily in Book One,[133] which is at the same time a symbolic representation of Empedocles' teaching.[134] Another such example is the *ecphrasis* of the festival of the *Magna Mater* in Book Two, which Lucretius used to reformulate the symbolic relationship between the myths about the *Magna Mater* and physical reality. As we have seen, such passages would be selected and separately studied in the school of a grammarian. In *DRN*, these *excursus* are always carefully knit into the argumentative fabric of the poem. This argumentative force sets Lucretius' *excursus* apart from those of other didactic poets. On the other hand, both Lucretian *excursus* and those of Aratus, for instance, serve as mnemonic aids. It is clear that the outstanding literary quality of Lucretius' didactic similes was meant to give the verbal presentation of physical phenomena a function of mnemonic icons, helping the reader to fix the given principles in his memory and subject them to interpretation. Thus for example the imperative *contemplator*, an invitation for contemplation of a visible phenomenon, introduces the image of the rays of the sun pouring into the dark corner of a room.[135] The iconic nature and epistemological value of the image are underscored by the general thought that immediately follows the description,

[131] 1.1052ff.
[132] See for example 2.1048ff.
[133] 1.716–730.
[134] The description revolves around the elements of earth, water, air, and fire.
[135] 2.112–141.

> *dumtaxat rerum magnarum parua potest res*
> *exemplare dare et uestigia notitiai.* (2.123–124)
>
> So far as it goes, a small thing can give an analogy of great things, and show the tracks of knowledge.

In addition to frequent allusions to other poetic texts, such as love epigrams at the end of Book Four for example, Lucretius' poetic voice also draws authority from his revisionary adaptations of entire passages from Greek and Roman literature. The selection of paraphrased passages in *DRN* reflects well the degree of popularity of individual authors in Hellenistic literary education: the majority of these passages comes from Homer/Ennius and the tragedians (mostly Euripides/Ennius), and only one extensive paraphrase, occupying the end of the poem, comes from a prose author, Thucydides.[136]

Lucretius' paraphrases subordinate the world of literature to the world of philosophy by combining the Alexandrian conventions of literary allusion with the philosophical examination of quotations from poetry. From the point of view of their argumentative function, Lucretius' adaptations of poetic passages are meant to corroborate Epicurean tenets: ancient poets are shown to speak Epicurean language without even knowing it. Although this effect is achieved primarily by placing the passages in the new context of *DRN*, Lucretius' manipulation shows deep understanding of the spirit of his sources.

Among the paraphrased passages that Lucretius presents as conveying an Epicurean message, perhaps the best-known are the following two. In the proem to Book Three, Lucretius adapts a passage from *Odyssey*:

> *apparet diuum numen sedesque quietae*
> *quas neque concutiunt uenti nec nubila nimbis*
> *aspergunt neque nix acri concreta pruina*
> *cana cadens uiolat semperque innubilus aether*
> *integit, et large diffuso lumine ridet.* (3.18–22)
>
> Before me appear the gods in their majesty, and their peaceful abodes, which no winds ever shake nor clouds besprinkle with rain, which no snow congealed by the bitter frost mars with its white fall, but the air ever cloudless encompasses them and laughs with its light spread wide abroad.

[136] For the way in which Lucretius adapts this passage to the Epicurean idea of philosophy as a cure for the disease of wrong beliefs, see Commager 1957.

Οὔλυμπόνδ', ὅθι φασὶ θεῶν ἕδος ἀσφαλὲς αἰεί
ἔμμεναι· οὔτ' ἀνέμοισι τινάσσεται οὔτε ποτ' ὄμβρῳ
δεύεται οὔτε χιὼν ἐπιπίλναται ἀλλὰ μάλ' αἴθρη
πέπταται ἀνέφελος, λευκὴ δ' ἐπιδέδρομεν αἴγλη·
τῷ ἔνι τέρπονται μάκαρες θεοὶ ἤματα πάντα. (*Od.* 6.42–46)

To Olympus, where, they say, the seat of the gods stands forever; it is neither shaken by winds, nor does it ever become wet by rains, nor does the snow come close to it, but air without clouds is spread wide and bright radiance runs over it; at this place the blessed gods enjoy all their days.

The lines describe the effect of Epicurus' teaching on Lucretius. As E. Bignone pointed out, Lucretius' diction is comparatively more intensive than Homer's (cf. *nubila nimbis* with ὄμβρῳ and *nix acri concreta pruina | cana cadens uiolat* with χιὼν ἐπιπίλναται), and his spondaic rhythm, unlike Homer's dactyls, expresses constraint.[137] Lucretius' masterful interpretation does not only emulate Homeric imagery—the absence of wind, rain, snow, and frost, and the widely-ranging reflection of the light; in fact, it invites us to recognize the Epicurean concept of ἀταραξία, i.e., the absence of tempest (ταραχή) behind it.[138]

The second passage is an adaptation of a well-known passage from Euripides' *Chrysippus*,[139] influenced by Empedocles and Anaxagoras:[140]

Denique caelesti sumus omnes semine oriundi;
omnibus ille idem pater est, unde alma liquentis
umoris guttas mater cum terra recepit,
feta parit nitidas fruges arbustaque laeta
et genus humanum, parit omnia saecla ferarum,
pabula cum praebet quibus omnes corpora pascunt
et dulcem ducunt uitam prolemque propagant;
quapropter merito maternum nomen adepta est.
cedit item retro, de terra quod fuit ante,
in terras, et quod missumst ex aetheris oris,
id rursum caeli rellatum templa receptant.
nec sic interemit mors res ut materiai
corpora conficiat, sed coetum dissupat ollis; (2.991–1003)

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137 Bignone 1973, 2.393–394.

138 Cf. the famous image in the opening lines of Book Two, 1–4, which condenses Epicurus' image of the tempest of the soul (ὁ τῆς ψυχῆς χειμών, *Men.* 128) with Epicurus' observation based on a well-known proverb (e.g., Archippus in Stob. 4.17.8), namely that to have in one's sight the great evil that one has escaped produces unsurpassed joy (τὸ γὰρ ποιοῦν… ἀνυπέρβλητον γῆθος τὸ παρ' αὐτὸ πεφυγμένον μέγα κακόν, Plu. *Moral.* 1091b).

139 Fr. 839 Kannicht; the passage was also adapted by Pacuvius and Vitruvius.

140 See Robin *ad* 991 and 1002 ff.

> Lastly, we are all sprung from celestial seed; all have that same father, from whom our fostering mother earth receives liquid drops of water, and then teeming brings forth bright corn and luxuriant trees and the race of mankind, brings forth all the generations of wild beasts, providing food with which all nourish their bodies and lead a sweet life and beget offspring; therefore she has with reason obtained the name of mother. That also which once came from earth, to earth returns back again, and what fell from the borders of ether, that is again brought back, and the regions of heaven again receive it. Nor does death so destroy things as to annihilate the bodies of matter, but it disperses their combination abroad;

> Γαῖα μεγίστη καὶ Διὸς Αἰθήρ,
> ὁ μὲν ἀνθρώπων καὶ θεῶν γενέτωρ,
> ἡ δ' ὑγροβόλους σταγόνας νοτίας
> παραδεξαμένη τίκτει θνητούς,
> τίκτει βοτάνην φῦλά τε θηρῶν,
> ὅθεν οὐθ' ἀδίκως μήτηρ πάντων νενόμισται.
> χωρεῖ δ' ὀπίσω
> τὰ μὲν ἐκ γαίας φύντ' εἰς γαῖαν
> τὰ δ' ἀπ' αἰθερίου βλαστόντα γονῆς
> εἰς οὐράνιον πάλιν ἦλθε πόλον·
> θνῄσκει δ' οὐδὲν τῶν γιγνομένων,
> διακρινόμενον δ' ἄλλο πρὸς ἄλλου
> μορφὴν ἑτέραν ἀπέδειξεν.

> Greatest earth and the sky of Zeus: he is parent of men and gods, and she, having received the moistening drops of rain, gives birth to mortals, gives birth to pasture and the tribes of beasts, and hence not unjustly she has been supposed to be the mother of all. And back goes all born from earth to earth, and everything growing from celestial lineage goes back to the vault of heaven; but no thing that comes into being dies, but one thing set apart from another appears in a different form.

The paraphrase is the first part of the conclusion to the preceding section of Book Two (730–990), where Lucretius proved that atoms have no secondary qualities, such as color, and they have no sensation. The second part of the conclusion teaches that death and dissipation of atoms lead to new unions with different shapes and colors; Lucretius reemphasizes the importance of the arrangement of atoms through the comparison between letters and atoms. Thus after a long technical discussion the elevated register of Euripidean allegoresis brings the mind of Lucretius' reader to the higher plane of a general principle, spread in front of his eye in the form of an already familiar literary landscape. Lines 992–995 and 998–1001 follow the original closely;[141]

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[141] Cf. Kranz 1929, 498 (= 1967, 349–350).

only lines 996–997 amplify the causal relationship of nutrition, already announced with the adjective *alma* in 992. Overall, the central idea of Euripides' passage is transmitted faithfully.

Our final example of the way in which a paraphrased passage corroborates Lucretius' teaching comes from the proem to Book Two. Here we encounter another rendering of Homeric lines:

> *gratius interdum neque natura ipsa requirit*
> *si non iuuenum sunt aurea simulacra per aedes*
> *lampadas igniferas manibus retinentia dextris,*
> *lumina nocturnis epulis ut suppeditentur* (2.23–26)
>
> Nor does nature herself ever crave anything more pleasurable, if there be no golden images of youths about the house, upholding fiery torches in their right hands that light may be provided for nightly reveling…

> χρύσειοι δ' ἄρα κοῦροι ἐϋδμήτων ἐπὶ βωμῶν
> ἕστασαν αἰθομένας δαΐδας μετὰ χερσὶν ἔχοντες,
> φαίνοντες νύκτας κατὰ δώματα δαιτυμόνεσσι. (*Od.* 7.100–102)
>
> And golden images of young boys set on firm pedestals, holding blazing torches in their hands to bring light to nights for feasters in the halls.

In Homer, the lines are a part of the description of the magnificent palace of King Alcinous. In Lucretius, they exemplify the luxuries that are not necessary, and they are followed by a pastoral passage in which real pleasure is said to be attainable within the limits of a modest *locus amoenus*. The imagery of *epos* is thus used to corroborate the rejection, which is actually in accordance with the logic of Homer, whose description of the excessive wealth of the Phaiacians prepares the mind of the audience for the eventual punishment of their *hybris*.[142]

Preceding examples show that Lucretius' use of borrowed poetic passages conforms with his general program of subordinating the literary educational background to the higher goal of philosophical enlightenment. The first prominent link between Lucretius' procedure of poetic paraphrasing and traditional educational practices can be seen in the fact that translation from Greek to Latin was one of the most important school exercises in Republican Rome. This practice had a considerable impact on the writing of the time, and was cultivated among the

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142 The passage discredits the simplistic image of Epicurus, promoted by Heraclides of Pontus, that of a "Phaiacian philosopher", an advocate of pleasure of banquet and song—see Bignone 1973, 1.289–294 (= 1936, 1.313–319); Kaiser 1964, 220–221.

poets well after they left school, as Catullus' translation of Callimachus' *Coma Berenices* shows. Next, the comparative prominence of Homeric and Euripidean material in Lucretius is consistent with our knowledge about the popularity of these two authors in school. As we have seen, Lucretius uses the passages taken from the poets to corroborate his proofs or refutations. His adaptation is always focused on channeling the impact of the presented material, and the examined literary borrowings seem to have been motivated by the poet's wish to appropriate the authority of the great teachers of the past. While the connection of this procedure with the rhetorical manipulation of poetry in Hellenistic literary education is clear, another essential link cannot be overlooked here, namely the connection between Lucretius' poetic adaptations and the philosophical practice of discussion of poetic passages.

We must not neglect the possibility that some, or even all the passages discussed above had first been used by Epicurus, and that Lucretius simply followed the master by weaving his poetic renderings of Epicurus' literary quotations or allusions into the fabric of his poem. The practice of quoting poets and discussing their lines, which was, as we have seen, deeply rooted in ancient literary education, was such a vital part of ancient philosophical discussion that it is unlikely that Epicurus was an exception in this respect.[143] This view is *prima facie* problematic, since Epicurus *is* presented as an exception by Diogenes Laertius, who claimed that Epicurus did not use a single quotation in his works. But some palpable evidence advises caution: we have seen that his invitation to Pythocles to sail away from traditional education could be read as an allusion to Odysseus' episode with the sirens;[144] we can be sure that he quoted Theognis 425 and 427,[145] and, according to Diogenes himself, it is most likely that he quoted Sophocles' *Trachiniae* 787–788;[146] it also seems that in connection with his doctrine of the *summum bonum* he discussed Homer's *Odyssey* 9.5ff.[147] In addition to this, Epicurus was

[143] For quotation of lines from Homer and Euripides in support of philosophical doctrines in Chrysippus and later Stoics see DeLacy 1948, 264.

[144] Above, p. 15 n. 2.

[145] *Men.* 126.

[146] See D.L. 10.137.

[147] Cf. Bignone 1973, 1.270–272 (= 1936, 1.292–294), who, besides Euripides' fr. 839, regards Lucretius' references to the myth about Phaethon (5.396–406), myths about Cybele (2.600–643), and the scenes from Tartarus (3.978–1023), as echoes of Epicurus' polemic with poets. Following Conte 1966, 346–348, Schmid 1978, 134–135 explains the passage as a motif taken from Cynic and Stoic popular discourse, pointing out that the halls of Alcinous in Lucretius have distinctly Roman design. But Schmid does not

accused by grammarians of having taken the best of his philosophical teachings (that pleasure is the removal of everything painful, or that death is nothing to us) from the poets.[148] D. Clay pointed out that many of Epicurus' *sententiae* were well known lines of common wisdom taken from the poets, only slightly altered.[149] On the basis of this evidence the view that Epicurus often alluded to passages from poetry, or sayings that encapsulate common wisdom, seems entirely plausible. These passages or sayings would either corroborate his own reasoning, or, if parodied, undermine that of the poets. These two modes of use recall the school exercises of proving and refuting a chosen passage from a poet. In the later school tradition, Philodemus certainly did not shun the quotation, approval and refutation of Homeric passages: his discussion *On the Good King According to Homer* is based entirely on Homeric passages. If Epicurus made allusions to literary passages and occasionally used even quotations, Lucretius' literary borrowings might actually be poetic counterparts of this procedure in the prose writing of his teacher.[150]

The Aim of DRN

The features of the *DRN* we examined so far show that the poem was composed as a studying text for an Epicurean novice already imbued in traditional education. *DRN* is not a poem that provides initial education; it is a poem meant to convert those who have already received it, namely the members of Roman élite. Writing to accommodate the needs of an audience about to enter a new educational curriculum, Lucretius chose the literary form and the set of literary techniques

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necessarily refute Bignone: Hellenistic philosophers often use the same commonplaces for different purposes, and if the Cynics and the Stoics referred to the passage of the *Odyssey*, the chances are that Epicurus did as well.

148 S.E. *M.* 1.273. Cf. above, p. 25 n. 57.

149 Clay 1973, 276–277 (= 1998, 27–28). E.g., "necessity is an evil, but to live under necessity is not necessary at all" (κακὸν ἀνάγκη, ἀλλ' οὐδεμία ἀνάγκη ζῆν μετὰ ἀνάγκης, *SV* 9), as an echo of "women are an evil, but nevertheless, my fellow-citizens, it is impossible to settle a household without evil" (κακὸν γυναῖκες· ἀλλ' ὅμως ὦ δημόται, | οὐκ ἔστιν οἰκεῖν οἰκίαν ἄνευ κακοῦ, Susarion, West *IEG* 2.167). Epicurus' allusion to this *Volkswitz* was noticed by Usener 1888, 180, right after the discovery of the *Gnomologium Vaticanum*.

150 Quotation is also one of standard procedures in popular philosophical discourse (cf. Wallach 1975, 60–63).

that could accommodate the cognitive processes of memorization and meditation in the best possible way. The belief that verse will facilitate memorization and thus preserve any material much better than prose underlies Hellenistic didactic projects such as Aratus' *Phaenomena* and Nicander's *Alexipharmaca*, both based on prose treatises.

We saw that the form of *epos* also helped Lucretius establish his authority as a teacher, and that it likewise helped the reader to accept the role of student. It is obvious that besides minor concessions to certain conventions of poetic language,[151] the form did not entail any change within the substance of the poem, and that Lucretius' content remained absolutely faithful to the teachings of Epicurus.[152] Being able to preserve all the important features of philosophical discussion in the medium of *epos*, the poet took great advantage of the power of poetic language to compress information. In comparison with Epicurus' περὶ φύσεως, which comprised 37 books, Lucretius' six books and 7,415 lines show a high degree of discursive economy. As for particular techniques of exposition, we saw how the use of *chreia*, *ecphrasis*, simile, and literary paraphrase facilitated both the process of composition and the process of reception of the poem.

Partly a popularizing,[153] protreptic work, *DRN* is rooted in the tradition of the school and continues the vein of the exoteric works of Epicurus, such as the *Letter to Menoeceus*. Designed to reach a wider audience, the work of the Roman poet is comparable to the inscription set up by Diogenes of Oenoanda in a stoa about two centuries later. But as an educational poem, *DRN* is an extreme project, an undertaking that goes far beyond the guidelines left by the founders of the school. Leaving Epicurus' modest protreptic writings far behind, Lucretius took over the medium of heroic poetry, the *fons et origo* of non-Epicurean education, and used it to convey the most difficult part of Epicurus' teaching. Most importantly, he completed this difficult task with brilliant success, creating a poem that outlived even the *Annales* of Ennius.

As Cicero's attacks on Epicurus and his followers show, Epicurean writers had a particularly bad reputation among certain educated Romans on account of their lack of the literary skills cultivated by tra-

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151 E.g., below pp. 94 and 131–132.

152 Cf. Gottschalk, 1996.

153 The word "popularizing" should not evoke our modern standards; the poem probably circulated in Late Republican Rome in no more than one or two dozens of copies.

ditional παιδεία.[154] Since *DRN* is in itself the best proof that Epicureanism is not incompatible with traditional literary culture, it is very likely that Lucretius' subordination of the form of *epos* to Epicurus' teaching on physics was motivated by a wish to invalidate the arguments upon which the bad reputation rested.[155] At first glance this aim suggests a similarity between Lucretius' project and the work of other contemporary Epicureans, especially that of Philodemus.[156] But once again, comparison with Philodemus only shows how much more of an ambitious project Lucretius' was. *DRN* did not merely enter the battlefield and engage in discussion with contemporary opponents—actually, it seems that Lucretius had very little concern for contemporary opponents and their opinions.[157] Instead, the concept of the poem transcended the entire battlefield. It endowed Epicurean teaching with the authority of *epos* as the ultimate literary form, *fons omnium litterarum*, and thus subdued the realm of traditional literature and culture in its totality.

The subversive strategy employed by Lucretius had important precedents in the Greek philosopher-poets, Xenophanes, Parmenides, and Empedocles, all of whom exploited the educational potential of epic poetry to communicate radically novel messages. A similar strategy was employed by Plato, whose appropriation of dramatic and rhetorical techniques was motivated by his wish to subvert the influence of poets and rhetors on his audience. Lucretius' programmatic statement about his use of poetry[158] bears close resemblance to a passage in Plato's *Laws*, where the Athenian stranger describes the process of guiding children towards the right opinion pronounced by the law first as incantation produced by chants (ᾠδαί), and then the administration of the right food to the sick in a way that will make its consumption pleasant.[159] The term ψυχαγωγία, commonly used by Lucretian scholars to describe

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[154] *Tusc.* 2.7–8; *Fin.* 2.18 and 2.27; *Ac.* 1.5. Cf. D.H. *Comp.* 24; S.E. *M.* 1.1.

[155] Cicero ignores Lucretius in his *philosophica*, although he does occasionally allude to places from *DRN*, such as for example the phrase *mente peragrauit* in *Fin.* 2.102.

[156] For Philodemus' role of interpreter and popularizer of Epicureanism in Rome see Erler 1992. Lucretius' connection with other Epicureans is still disputed. The point of controversy are the fragments from the *Villa dei Papiri* in Herculaneum that K. Kleve ascribed to *DRN* (Kleve 1989, 1997); some, even if they accept the identification, do not admit that this proves any connection (Sedley 1998, 66).

[157] Cf. Furley 1966; Sedley 1998, 62–93. *Contra* Kleve 1978, Schrijvers 1992, and Long 1997.

[158] 1.936–941 (= 4.11–17).

[159] 659d–660a. The Athenian stranger refers to his arguments as chants in 903a.

his use of literary technique, is a term that Plato used to describe the influence of philosophically grounded rhetoric on the soul.[160]

Lucretius' debt to his Greek predecessors, in particular to Empedocles, has rightly become a question of importance almost equal to the problem of his debt to Epicurus.[161] But our understanding of the strategy the poet employed may equally benefit from a look ahead. Lucretius has a number of successors in early Christian grammarians and poets who rewrote the stories of the *Old* and *New Testament* in the form of classical poetry. I mean such works as Juvencus' *Evangeliorum Libri IV*, a Vergilian version of the Gospels; the cento of Proba, in which themes from the Bible were told through a play with Vergilian verses; Prudentius' *Apotheosis, Hamartigenia, Psychomachia*, and *Dittochaeon*, all didactic poems on Christian themes; Cyprianus Galus' *Heptateuch*, an epic paraphrase of the first seven books of the *Old Testament*; Claudius Marius Victorius' *Alethia*, an epic paraphrase of the *Genesis*; Sedulius' *Carmen Paschale*, an epic on a number of episodes from the *Bible*.

The parallels from late antiquity show how attractive the power of literary text and the mechanism of education it set in motion was for the authors who wished to subvert the hegemonic force of traditional culture and carry out a cultural revision. By endowing Epicurus' teaching with the authority of a traditional epic poem of astounding beauty, Lucretius hijacked the entire mechanism on which traditional culture was based. The form of *epos* was a sound rhetorical choice: it gave to traditional poetic elements a strong revisionary potential, and turned esthetic pleasure into the experience of revelation of scientific truth. It allowed Lucretius to give an Epicurean heart to the entire body of Hellenistic culture, which had by this time already conquered Rome. The concept of *DRN* was one of the greatest refinements of a Greek cultural product that a Roman ever performed. In the Greek world, Homer's poems were regarded as a universal encyclopedia of the world; but it was Roman Lucretius who really confined the entire *physis* to one single *epos*.[162]

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[160] *Phdr.* 261a.

[161] E.g., Sedley 1998.

[162] As Hardie 1986 showed, Lucretius' concept of universal poem was taken over by Vergil. Cf. Hardie 1993.

CHAPTER TWO

A LINEAR UNIVERSE

Lucretius' intention was, as we saw, to compose an educational poem, and lead his reader by means of traditional poetic discourse to a set of non-traditional beliefs. In the preceding chapter we noted the successive elaboration of elementary Epicurean propositions as an important structural pattern in *DRN*. Through this pattern, a novice was guided step by step through the path discovered by Epicurus. In the present chapter I wish to examine further the questions of how Lucretius guides his reader through the material he presents, and how the structure of the poem is connected with its content and purpose. In dealing with these questions, I shall focus more narrowly on the rhetorical elements of the poem and their role in the poetic process of composition on one hand, and the cognitive process of understanding and learning on the other. My discussion will be organized according to three structural levels of *DRN*, proceeding from top to bottom: the level of the poem as a whole, the level of an individual book as a compositional unit, and the level of the argumentative core of each book, within which I shall distinguish two further sublevels, namely the level of thematic blocks, and the level of individual arguments.

Before I enter the discussion, I would like to say a few words about the challenge Lucretius faced when he decided to organize the vast material presented in *DRN* into a single poem. The poem has a clear subject, *rerum natura*. But the *natura*, the equivalent of Epicurus' φύσις, is in a sense limitless. Modified by the genitive *rerum* or by the genitive of the substantivized adjective *omne*, *natura* comprises no less than everything that exists:

> omnis *ut est igitur per se* natura *duabus*
> *constitit in rebus: nam corpora sunt et inane,*
> *haec in quo sita sunt et qua diuersa mouetur.*[1] (1.419–421)

[1] Cf. Cic. *nat. deor.* 2. 82: *Sunt autem qui omnia naturae nomine appellent, ut Epicurus, qui ita diuidit, omnium quae sint naturam esse corpora et inane quaeque iis accident.* See also parallels adduced by Pease *ad loc.*

> *The nature of the universe*, therefore, as it is in itself, is made up of two things; for there are bodies, and there is void, in which these bodies are and through which they move this way and that.

Hence it is fair to say that Lucretius' poem is concerned with *everything that exists*, i.e., *the whole universe*. The goal of the poet, just like that of Epicurus, was to explain the universe in its entirety, making φύσις understandable through the medium of discourse, φυσιολογία.

We understand the universe as a structure of remarkable complexity. Epicurus understood it in this way, as did Lucretius, describing it as *machina mundi*.[2] The image of the world as a complex structure has been a part of philosophical conceptual vocabulary at least since Plato's *Timaeus*, in which the god is described as a δημιουργός[3] of a fairly complex organism.[4] The representation of god as an architect and the world as a complex structure has a long and rich history in Western thought, spanning different cultural and ideological contexts, including Cicero's philosophical works and Christian theological writings.[5] But there is another relevant ancient commonplace comparison based on the concept of a complex structure. It is the comparison between the process of composing poetry and the process of building. Democritus regarded Homer as someone who has built (ἐτεκτήνατο) a world out of all sorts of words;[6] for Pindar, poets were a τέκτονες;[7] Dionysius of Halicarnassus spoke of poets as δημιουργοὶ λόγων.[8] The comparison of the product of a poet, his poem, to an architectonic structure is a traditional part of the Greek poetic and philosophical vocabulary. Greek and Roman literary critics have derived from this comparison a significant number of technical terms.[9] Lucretius uses the same imagery

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[2] 5.96. Bignone 1973, 2.75 n. 53 (= 1936, 2.415 n. 3) showed that the phrase *machina mundi* is meant to represent the world as made by human hands and thus perishable. This representation reflects Epicurus' argument against Aristotle's view that cosmos is eternal (cf. Ar. *De philos.* fr. 18 and 20 Ross and *De coel.* 1.10–12, 279b–283b; Cic. *Nat. deor.* 1.20). It is possible that, as often in Lucretius, the phrase has the power of a concrete image. *Machina mundi* brings to mind astronomical instruments—Epicurus referred to some instruments of this sort in *On Nature* (26.38–39 Arr.). Lucretius perhaps also saw the planetarium of Archimedes (Cic. *De rep.* 1.21; id. *Nat. deor.* 2.88; Ov. *Fast.* 6.277–280), and calendrical instruments such as Antikythera mechanism (Price 1975).

[3] E.g., *Tim.* 28a.

[4] *Tim.* 48a.

[5] See Curtius 1954, 527–529.

[6] 68 B 21 DK.

[7] *P.* 3.113.

[8] *Dem.* 51.

[9] See Van Hook 1905, 40–42.

when he compares the foundations of philosophy to the foundations of a building.[10] In addition, the comparison of a poem or a speech with an architectonic structure has also been used for practical purposes in the Greco-Roman mnemonic technique of *loci*, allegedly invented by the poet Simonides of Ceos. This technique is based on the psychological phenomenon that the content of a long poem or speech is best memorized by building an imaginary space in the mind and distributing the verbal content throughout the space, associating it with particular spots.[11] Finally, the idea of a complex structure has been rediscovered in contemporary cognitive science for the purpose of explaining the way in which we comprehend both verbal and non-verbal material. According to the results of experimental research, the process of comprehension is best described in terms of structure-building: it begins with the laying of a foundation, and proceeds with mapping and building the incoming information on the foundation.[12]

While the universe, poetry, and human memory and comprehension are all systems comparable to three-dimensional architectonic structures, language is a system with one important restriction: it is a linear medium and it builds complex meanings by a simple linear sequence of sounds (or letters) in space and time.[13] Bearing this important difference on our mind, we may refine the question of Lucretius' use of rhetorical elements in the exposition of his material: we may ask ourselves how is the linear medium of communication in *DRN* organized to accommodate a phenomenon as complex as the entire universe. We must seek an answer to this question by examining the way in which Lucretius uses certain traditional strategies that exploit the linear nature of his medium, and the way in which these strategies organize his message in a highly hierarchic structure. This path opens further possibilities in our exploration of Lucretius' debt to Epicurus.

In a linear sequence, the most prominent places are the beginning and the end. The importance which the first and last place in an utterance have in the process of understanding and remembering information has been empirically established by research in cognitive science. The fact that it is easier to remember the word which has been mentioned first in an utterance is called the advantage of first mention, and

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[10] 4.513–521. Cf. Epicurus' metaphor of the yard-stick of investigation (κανών).
[11] *Rhet. Her.* 3.28–40; Cic. *De or.* 2.350–388; Quint. *Inst.* 11.2.1–51.
[12] Gernsbacher 1990, 5–85.
[13] See Chafe 1970, 4–6.

the fact that, upon hearing or reading a two clause sentence, it is easier to remember the most recently heard clause is called the advantage of clause recency.[14] The importance of the beginning and the ending of an utterance is already familiar to the student of the structure of the classical Latin sentence, in which the beginning and the end are the places where we find the emphasized words.[15] Rhetorical rules for the organization of a sequence of arguments also exploit this natural law: the recommended strategy is the so-called *ordo Homericus*, in which the strongest arguments are placed at the beginning and at the end of the sequence, while the weaker ones occupy the middle[16]—an order of arguments that has already been detected in *DRN*.[17] As we shall see, the beginning and the end will be the places that receive a particular elaboration on each level of Lucretius' exposition. We shall start with the poem as a whole, and the way in which Lucretius articulates the beginning and the end of his discourse. As we proceed towards smaller and smaller segments of the poem, the beginnings and the ends will remain in the focus of our attention. Application of this method rests on my belief that the poem, as we have it today, was brought to completion by the poet at least in terms of its structure and organization.

The Poem

In accordance with the didactic poetic tradition, Lucretius dedicated *DRN* to an addressee, Gaius Memmius. The tradition of dedicating a poem to a person and casting it as a lecture might be explained functionally as a particular strategy of dissemination of knowledge: the poem is composed as a script designed to be reenacted numerous times through numerous readings. The same idea underlies Epicurus' thirty-seven lectures *On Nature*, delivered to a circle of his closest students,[18] but recorded for the use of a wider audience, distant both in space and time. Although the presence of an addressee in the poem is commonly discussed in modern scholarship as a formal feature of didactic poetry, the influence of the Epicurean model on Lucretius' poem is evident

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[14] Gernsbacher 1990, 10–39.
[15] Cf. Kühner-Stegmann 1982, 2.591–592.
[16] Longin. *Rh.* Spengel v. 1, p. 303, 26ff.; *Rhet. Her.* 3.18; Quint. *Inst.* 5.12.14.
[17] See Classen 1968, 92, following Büchner 1937.
[18] Sedley 1998, 104–109 gives a helpful general account of the style of Epicurus' *On Nature*.

and must not be ignored. It has been observed that the poet's relationship with his addressee differs from that of his didactic predecessors: Lucretius' addressee/reader has been cast as an actively engaged interlocutor, and his participation in the text generates constant dialogue, creating a dynamic of gradual progress throughout the course of the poem.[19] This dynamics of dialogue is not a characteristic of the didactic, but of the philosophical tradition, and lectures *On Nature*, with Epicurus' numerous apostrophes of his listeners,[20] and regular elimination of potential objections, are the most probable source of Lucretius' strategy. Once again we observe that the poet's central drive is to subordinate literary conventions to the higher goal of philosophical instruction.

The effect of the formal procedure of dedication in didactic poems could be described as *staging* the discourse about to follow, with the consequence of placing the reader in the comfortable position of a theatrical spectator. The same effect is produced not only by published written records of philosophical lectures, but also by other conventional forms of transmitting knowledge in antiquity. In literary epistles, for example, one would also use dedication as an introduction. In this introductory dedication, the discourse to follow would be addressed to a particular person (in a personal tone), the letter would be presented as the result of a request made by the addressee, and its content would be emphatically recommended. Epicurus' letters to Herodotus and Pythocles, as we saw,[21] are good examples of this practice; some of the works of Epicurus listed by Diogenes Laertius were also dedicated to various students.[22] Thus we can say that, as a way of staging the discourse, Lucretius' dedication echoes the introductory addresses in some of the works of Epicurus. But while Epicurus in his letters (and in his lectures)[23] returns to his addressees or students in order to mark the end and formally frame his discourse, Lucretius never made such a return to Memmius. The way in which the beginning and the end of *DRN* are connected is different.

The poem opens with an invocation of the goddess of procreation and life, and closes with a description of devastation and death. The opening and the closing passages do show features that facilitate a

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19 Gale 2005, 176–178.

20 E.g., of Metrodorus in *Nat.* 31.11, 14, 22 Arr.

21 Above, pp. 25 and 26.

22 E.g., *Neocles* to Themista and *Eurylochus* to Metrodorus (D.L. 10.28).

23 E.g., the end of Book Twenty-Eight, where Epicurus returns to his audience with καὶ ὑμεῖς (*Nat.* 31.22 Arr.).

direct interpretative connection,[24] but this connection is established primarily on the symbolic or figurative level of the antithesis creation—destruction. Lucretius walks the reader through his explanation of the world as if through a cycle of life, from the point of a symbolic birth to the point of a symbolic death. The life in-between belongs presumably to everything that makes the body of *Natura*. The implied personification of the subject of the poem is not just poetic license, but reflects one of the main Epicurean tenets: our world, as we see it now, was born at a certain point, and at a certain point it will die.[25] In light of this idea, the opening and closing passages both reinforce the rigid thematic unity of the poem and highlight one of its central messages.[26] Both effects are significantly enhanced by the monumental length of the poem.

The symbolic cyclical pattern will be repeated on lower levels of organization: the whole poem is formally divided into six segments by repetition of the same structure, namely that of an individual book. This structure will be discussed below, and repetition, one of the most effective strategies Lucretius uses to improve the visibility of the internal configuration of *DRN*, will be traced onto other levels of organization of the poem as well.[27]

While the idea of cycle, and in particular the life cycle, is used in structuring the poem as a whole, its content is organized according to the principle of causal explanation. The sequence of causes and effects in *DRN* evokes an image of the gradual expansion of view, moving from the realm of the invisible to the realm of the visible. As is widely recognized, the poem consists of three thematic subdivisions, each comprising a pair of books: Books One and Two are devoted to the microscopic realm (atoms, void and the properties of the atoms); Books Three and Four to the realm of man (his soul, perception and other vital functions); Books Five and Six to the macroscopic realm

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[24] Bright discusses a number of complementary elements in the two passages, e.g., the wind bringing life and death, the thronging and the dead birds *et sim.* (Bright 1971, 624–632).

[25] Lucr. 2.1105–1174; 5.91–109 and 235–415.

[26] Cf. Minadeo (1965), Bright (1971), Schiesaro (1994). Minadeo and Schiesaro discuss a number of micro-cycles of creation and destruction in the poem.

[27] On Lucretius' repetition of particular sections as a reflection of Epicurus' request for internalization of his philosophical principles, see Clay 1983, 185 and 191–199. In the following discussion I focus on repetition as a fundamental pragmatic principle in language communication. Cf. Tannen 1987, 581–583, who points out that in conversation, repetition plays very important role in terms of production, comprehension, and connection of discourse.

(the world, its history, and natural phenomena).[28] The first two books of the poem lay out a foundation on which the following two layers are mapped. The sequence of topics in the poem follows the natural hierarchy of elements or causes, as revealed by Epicurus.[29]

Proceeding from causes to effects, and from elementary principles (στοιχειώματα) towards particular explanations, Lucretius based his account of the universe on an essentially narrative sequence. The procedure marks not only the work as a whole, but also its individual sections.[30] The reader is systematically led to the insights that stem from the application of the principles introduced earlier in the poem. We see this order of exposition in the hypomnematic writings of Epicurus,[31] and we can assume that in his lectures *On Nature* the material was presented in the same order.[32] The procedure most likely goes back to the first atomists, Leucippus and Democritus, whose materialistic explanations were based on the idea of a chain of causes ruled by necessity.[33] Epicurus rejected necessity and energetically promoted the existence of free will. But having adopted the rest of the atomistic system, he inherited the procedure of causal explanation, and sought to reveal a chain of causes which, as he thought, was ultimately ruled by nature. This is admittedly the most convenient strategy of exposition in a system that conveys an existing body of knowledge and aspires to offer answers to all the important questions about our world. Thus in Lucretius, the principles introduced at the beginning of the argumentative section of Book One lay out the rules of the plot which will not be abandoned until the end of the poem. Once an infinite number of atoms in void is set in motion in front of our eyes, the poem is set on the track of causal explanation. Clear understanding of *natura* as the single cause will be a torch which will gradually, through the course of the poem, illuminate all of the essential features of the world, outlining its true story.

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28 Cf. Brown 1987, 10–13 (including a bibliographical summary of preceding discussions on p. 10, n. 20); Giancotti 1994, xxxiii; Dalzell 1996, 54. The material in Books One, Three and Five has special importance, since the following book in each pair provides further elaboration of the principles expounded in the preceding book (Giancotti 1989, 257).

29 Cf. Fowler 1995, 8–10.

30 E.g., the explanation of the attraction produced by the magnet (6.917–920 and ff.).

31 E.g., *Her. passim*. It also seems to be the method of Empedocles, but the character of his exposition is of course still a subject of dispute (see Wright on fr. 18).

32 Cf. Sedley 1998, 136.

33 Leucippus 67 B 2 DK; Democritus 68 A 1, 37, 39 and 66 DK.

Individual Books

It is only at the level of individual books that we reach *terra firma* with solid boundaries. Six proems divide the work into six individual books, six architectonic units supported by a number of formal features. The length of each book, between 1094 and 1457 lines, reflects the old Alexandrian standard, the standard that precedes the traditional division of the *Iliad* and *Odyssey* into books between 300 and 900 lines long.[34] Each book consists of a proem (followed by a transitional passage), a long argumentative section, and a finale.[35] This is the traditional structure of a didactic poem, such as Hesiod's *Theogony* and *Works and Days*, Aratus' *Phaenomena* and Nicander's *Alexipharmaca* and *Theriaca*. All of these works start with a proem, continue with the treatment of the main theme, which constitutes the longest part of the poem, and end with a short, more or less formal conclusion.

Προοίμια (proems), such as the ones preserved in the collection of the so-called *Homeric Hymns*, were originally hymns prefaced to Homeric poetry on the occasion of public recitations. They constituted a separate genre, and their structure and content was apparently not directly connected to the recitation to follow.[36] In didactic poetry, the opening hymns are still separate sections with their own conventional topics and elevated tone, but they are integrated into the poem, and even used to strengthen its internal cohesion. The proem of Aratus, for example, casts in traditional Hesiodic diction the Stoic concept of Zeus as a rational principle permeating the universe.[37]

In the preceding chapter, we saw how Lucretius' opening proem combined traditional hymnic motifs with a protreptic message.[38] It has been proposed that Lucretius' model here was Empedocles,[39] but in the absence of his proems the extent to which Lucretius imitates Empe-

[34] Van Sickle 1980, 12.

[35] Cf. Giancotti 1994, xxxii. For the points of correspondence with the exemplary rhetorical pattern of judicial speech (*exordium, narratio, argumentatio* and *peroratio*), see Rand 1934, and Owen 1968–1969.

[36] West 1966, 150–151; *idem* 1978, 136–137.

[37] Kidd 1997, 10–12. In the third century AD, Menander Rhetor recognizes the category of φυσικοὶ ὕμνοι (333.12–15), in which the authors identify the gods to whom the hymn is delivered with physical elements, and proceed to discuss the nature of these elements (337.1–5). In poetry, Menander's exemplary authors are Parmenides and Empedocles; in prose, Plato (337.5–9).

[38] Above, pp. 34–35.

[39] Furley 1955; Sedley 1998, 1–34.

docles remains a subject of speculation. However, hymnic elements as a part of philosophical discourse are not restricted to the work of the poet-philosophers. Plato's *Timaeus* and *Critias* provide good examples of the way in which hymnic motifs could be used in crafting philosophical discourse as an encomium. Both dialogues stage explanatory accounts, the speeches of Timaeus and Critias respectively. The audience is informed that the speeches were delivered on one of the days during the celebration of the Panathenaic festival in Athens (this means that the speeches represent a Platonic alternative to the encomia to the city and its patron goddess that would normally be delivered on this occasion). In two introductions to the parts of Timaeus' account on the nature of the universe (περὶ φύσεως τοῦ παντός)[40] we find several motifs that remind us of the proems of *DRN*. First, the invocation of divinity as an aid in composing the speech,[41] then a confession by the author that he is not able to treat such a great theme worthily,[42] and finally the difficulty of illuminating a difficult concept with words.[43] The introduction to the speech of Critias also contains an invocation of divinity,[44] and a plea to the audience to consider the difficulty of the subject.[45] Socrates acknowledges the fact that all of these elements are widely accepted commonplaces in the procedure of creating the ἀρχή (beginning) of discourse.[46]

While the epic proems still provide the ultimate model both for the didactic and the Platonic proems, this model does not explain why Lucretius composes a proem for each book. No preserved epic or didactic poem preceding *DRN* displays a similar structure. According to the *Suda*, Empedocles' περὶ φύσεως contained two books,[47] but we do not know whether each book was introduced by a proem. A testimony from Athenaeus informs us that the lost *Georgica* of Nicander also contained two books, but here again we do not have information regarding the existence of proems.[48] Unfortunately, although we

[40] 27a.
[41] 27b–c, and again in 48d; cf. *Phdr.* 273e.
[42] 19d and in 48c–d.
[43] 49a–b.
[44] 108d.
[45] 106b–108a.
[46] 108a–b.
[47] "And he wrote two books *On Nature of the Things That Exist* in epic verse" (καὶ ἔγραψε δι' ἐπῶν περὶ φύσεως τῶν ὄντων βιβλία β΄).
[48] (Nicander) says in the first book of his *Georgica*… ([Νίκανδρος] ἐν τῷ προτέρῳ τῶν Γεωργικῶν… Athen. 126b = 68 Gow-Scholfield).

know that Ennius treated the individual books of *Annales* as narrative units, we do not know whether he prefaced each book with a proem. Pöhlmann suggested that Lucretius learned his technique of using individual proems from the Roman *artes* of the 2nd/1st century BC.[49] This hypothesis is not unattractive, especially since comparison between the motifs in Lucretian proems and those found in the prefaces to Roman *artes* lends it substantial support. As Pöhlmann pointed out, the prefaces to Roman *artes* contain emphasis on the importance of the material, expressions of good will of the author towards the pupil, difficulties that the author faces, hymns in prose, panegyric of the ruler, encomia to πρῶτοι εὑρεταί, systematic reflections of the author, or philosophic contemplation.[50]

But equally attractive is the possibility of the influence of philosophical tradition, and in particular the influence of Epicurus. Prefaces to single books were not unusual in philosophy, where this feature was associated with Aristotle's exoteric works.[51] It is possible that the practice was continued by Epicurus, since it seems that the individual books of *On Nature* had some sort of preface as well. Diogenes Laertius says that Epicurus mentions Metrodorus in many introductions;[52] some of them could be introductions to the individual books of *On Nature*.

Lucretius' proems include or are followed by passages which lay out the prospective topics.[53] For example, in the proem to Book One, the poet announces the beginning of his account of heavens, gods, and atoms:

> *nam tibi de summa caeli ratione deumque*
> *disserere incipiam, et rerum primordia pandam*
> *unde omnis natura creet res auctet alatque*
> *quoue eadem rursum natura perempta resoluat*
> … (1.54–57)

> For I shall begin to discourse to you upon the most high system of heaven and of the gods, and I shall disclose the first-beginnings of things, from which nature makes all things and increases and nourishes them, and into which the same nature again reduces them when resolved.

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49 Pöhlmann 1973, 888.

50 *Ibid.*

51 Cicero mentions Aristotle in connection with the fact that he wrote prefaces to the individual books of *De re publica*: … *quoniam in singulis libris utor proemiis ut Aristoteles in iis quos* ἐξωτερικοὺς *uocat* (*Att.* 4.16.2, adduced by Pöhlmann 1973, 887).

52 Ἐν προηγουμένοις γραφαῖς (10.23).

53 Lucr. 1.54–61 and 127–135; 2.62–66; 3.31–93; 4.26–44; 5.55–90; 6.43–95.

After the passages describing the heroic achievement of Epicurus and the terrors and fears of traditional religious beliefs (the sacrifice of Iphigenia and the concept of the "regions of Acheron" in Homer and Ennius), Lucretius completes his table of contents in the form of a conclusion to the immediately preceding verses:

Quapropter bene cum superis de rebus habenda
nobis est ratio, solis lunaeque meatus
qua fiant ratione, et qua ui quaeque gerantur
in terris, tum cum primis ratione sagaci
unde anima atque animi constet natura uidendum,
et quae res nobis uigilantibus obuia mentes
terrificet morbo adfectis somnoque sepultis,
cernere uti uideamur eos audireque coram,
morte obita quorum tellus amplectitur ossa. (1.127–135)

Therefore not only must we lay down right principles concerning things celestial, how the courses of sun and moon come about, and by what power all is done upon earth, but also most especially we must examine with keen-scented reasoning, of what the spirit is made and the nature of the mind, and what thing it is that meeting us when awake terrifies our minds whilst we are laboring under disease, or buried in sleep, so that we seem to see and to hear in very presence those who have encountered death, whose bones rest in earth's embrace.

The same procedure appears in the argumentative bodies of individual books. For example, later in the course of Book One, at the point of making the transition between two argumentative sections, Lucretius introduces his proofs for the existence of atoms with the following verses:

Nunc age, res quoniam docui non posse creari
de nilo neque item genitas ad nil reuocari,
ne qua forte tamen coeptes diffidere dictis
quod nequeunt oculis rerum primordia cerni,
accipe praeterea quae corpora tute necessest
confiteare esse in rebus nec posse uideri. (1.265–270)

Now then, since I have taught that things cannot be created from nothing and, when brought forth, cannot be brought back to nothing, that you may not by any chance begin nevertheless to distrust my words, because the first-beginnings of things cannot be distinguished by the eye, learn in addition of bodies which you must yourself of necessity confess to be numbered amongst things and yet impossible to be seen.

The procedure of setting out an outline of the content, followed by the corresponding arrangement of the material, was introduced to Greek prose discourse by the first Sophists. As M. Fuhrmann has

shown, it can be seen in Gorgias' *Helen*, *Palamedes* and *On Nature*.[54] In *Helen*, to take one of the examples, after the thesis of the speech has been announced—that Helen should not be blamed for what she did—possible reasons why she went to Troy are enumerated: "For she did what she did because of the will of destiny, or the design of the gods, or the decrees of necessity, or having been abducted by force, or persuaded by speech, ⟨or conquered by love⟩" (ἢ γὰρ τύχης βουλήμασι καὶ θεῶν βουλεύμασι καὶ ἀνάγκης ψηφίσμασιν ἔπραξεν ἃ ἔπραξεν, ἢ βίαι ἁρπασθεῖσα, ἢ λόγοις πεισθεῖσα, ⟨ἢ ἔρωτι ἁλοῦσα⟩).[55] The discussion then addresses each of the reasons outlined at the beginning. Transitional passages between the discussion of particular reasons facilitate the audiences' orientation in the argument: "And so the fact that, if she was persuaded by speech, she did not do wrong but was unlucky, has been explained; now I shall explain the fourth reason with the fourth speech" (καὶ ὅτι μέν, εἰ λόγῳ ἐπείσθη, οὐκ ἠδίκησεν ἀλλ' ἠτύχησεν, εἴρηται· τὴν δὲ τετάρτην αἰτίαν τῷ τετάρτῳ λόγῳ διέξειμι.).[56] In the conclusion, the thesis is repeated, and the possible reasons restated: "How then should one think that the rebuke of Helen is just, when she did what she did either as a victim of love, or having been persuaded by speech, or abducted by force, or forced by the necessity imposed by the gods" (πῶς οὖν χρὴ δίκαιον ἡγήσασθαι τὸν τῆς Ἑλένης μῶμον, ἥτις εἴτ' ἐρασθεῖσα εἴτε λόγῳ πεισθεῖσα εἴτε βίᾳ ἁρπασθεῖσα εἴτε ὑπὸ θείας ἀνάγκης ἀναγκασθεῖσα ἔπραξεν ἃ ἔπραξεν).[57]

The composition of speeches or philosophical treatises in Lucretius' time relied very much on this technique. Thus, for example, at the point of transition from the narrative to the argumentative part of one of his assembly speeches, Cicero announces the syllabus of his argumentation: *Primum mihi uidetur de genere belli, deinde de magnitudine, tum de imperatore deligendo esse dicendum* (It seems to me best to speak first about the nature of the war, then about its magnitude, and finally about the choice of a commander).[58] This breakdown will provide the audience with a map of the argument, and in the following discussion Cicero will be able to hold their attention by referring them back to the original plan: *Satis mihi multa uerba fecisse uideor, qua re esset hoc bellum genere ipso*

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[54] Fuhrmann 1960, 129–131.
[55] 82 B 11 (6) DK.
[56] 82 B 11 (15) DK.
[57] 82 B 11 (20) DK.
[58] *Manil.* 6.

necessarium, magnitudine periculosum; restat ut de imperatore ad id bellum deligendo ac tantis rebus praeficiendo dicendum esse uideatur (It seems to me I have said enough to explain why is this war necessary on account of its very character, and risky on account of its size; what remains is to speak about choosing the commander and putting him in charge of such an important affair).[59] Similarly, at one point in his *De officiis*, Cicero gives the syllabus of his treatment of the sources of duty: … *ea ratio, qua societas hominum inter ipsos et uitae quasi communitas continetur; cuius partes duae, iustitia …, et huic coniuncta beneficentia, quam eandem uel benignitatem uel liberalitatem appellari licet* (the principle by which society and as it were fellowship of life are held together; it has two parts, justice…, and connected with it beneficence, which, although it is one thing, may be called either generosity or liberality).[60] Later, making a transition in his discussion, he refers the reader back to the syllabus: *De iustitia satis dictum. Deinceps, ut erat propositum, de beneficentia ac de liberalitate dicatur…* (Enough was said about justice. Next, as I proposed, I shall speak of beneficence and liberality…).[61]

Rhetorical theory knows this procedure as διαίρεσις or *partitio*.[62] Although no actual τέχνη of a sophist is preserved, it is reasonable to think that these works were organized according to the same systematic procedure. Our only evidence for such τέχναι supports this conclusion: Book One of the *Rhetorica ad Alexandrum* begins with a division of rhetoric into three genres, which are further divided into seven species; the rest of the book is devoted to a more detailed discussion of particular species, following the order in which they were introduced. The procedure consisting of a definition, breakdown and systematic discussion of the parts of a certain phenomenon became normal procedure in philosophical treatises as well, as our evidence from Plato and Aristotle shows.[63]

A comparison with the preceding material reveals the fact that, although he announces his immediate topics at the end of his proems, Lucretius does not give precise and exhaustive rhetorical partitions for whole books, followed by constant references to proposed guidelines. Similarly, his announcement of the content of the entire poem cannot

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59 *Manil.* 27.
60 *Off.* 1.20.
61 *Off.* 1.41–42.
62 Cf. Ernesti 1983, *s.vv.*
63 Fuhrmann 1960, 132–144.

be regarded as a rhetorical partition. The two sections adduced from the proem to Book One announce the topics in the following order: heavens and gods, atoms (1.54–57), celestial phenomena, the spirit and the mind (1.127–135). Lucretius does not follow this order in the rest of his poem. Unlike the examples from Gorgias and Cicero, the passages from *DRN* cannot be read as ostentatiously conscious references to a strictly logical order upon which the argument of the poem rests. Lines 1.127–135 end with Lucretius' announcement of the necessity of his explanation of the spirit and the mind because they conclude the section in which the poet introduced the fear of death as a consequence of common ignorance about the nature of the soul. These lines can be understood only in their immediate context, and should not be taken as the actual table of contents.

Lucretius' transitions in argumentative sections, as we shall see, do give his reader some orientation, but again not in the strict sense of repeated keywords and clear references to a preceding partition, as was the case in Gorgias and Cicero. This distinctive feature of *DRN* may be explained by the fact that Lucretius is writing a didactic *epos*, and that in this genre a clearly cut rhetorical partition would not sound appropriate. But this sort of reasoning could also make some other prosaic features of *DRN* inappropriate. It is thus better to consider the possibility that the absence of strict *partitiones* from the proems to each book reflects Epicurus' alleged abstinence from such devices: *Iam altera in philosophiae parte, quae est quaerendi ac disserendi, quae* λογικὴ *dicitur, iste uester* (sc. *Epicurus*) *plane, ut mihi quidem uidetur, inermis ac nudus est. Tollit definitiones, nihil de diuidendo ac partiendo docet*… (Now in the other realm of philosophy, concerned with method and dialectic, which is called logic, this fine teacher of yours (sc. Epicurus) is clearly, as it seems to me, unarmed and naked. He excludes definition, and teaches nothing about division and partition…).[64] Cicero's critique is certainly an exaggeration, since both Epicurus and Lucretius occasionally use partitions and definitions;[65] still, it is very likely that Cicero based his criticism on the fact that these are not central organizational principles in Epicurean writings.

One noticeable feature of the content descriptions that precede the argumentative sections in the individual books of *DRN* is the fact that they usually state why the material to follow is important, and how this

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[64] Cic. *Fin.* 1.22 (cf. 2.18).
[65] See below, pp. 128–129.

material fits into Epicurus' system as a whole. C.J. Classen pointed out the rhetorical nature of this type of procedure, providing a number of parallels from oratory.[66] However, the procedure is not entirely alien to Epicurus. For example at the beginning of Book Six, introducing his discussion of celestial phenomena, Lucretius explains that the purpose of his account is to ensure that fear of the gods is removed from the heart of the reader, and with it any disturbance that prevents acts of real piety.[67] Epicurus' account of celestial phenomena in the *Letter to Pythocles* is prefaced with a similar introductory remark concerning the goal of his research, namely peace of mind and firm confidence.[68] His isolated remarks on the importance of physics to his ethical teachings confirm that stressing the importance and the place of certain material in the system as a whole was a common feature of his discourse.[69]

The connection between the proems and finales of individual books also deserves our attention. Lucretius' first proem, as we have observed, is paired with the finale of Book Six into a symbolic frame for the whole poem.[70] Likewise, some *prooemia* of individual books have stylistic and thematic echoes with their corresponding finales. The most conspicuous example is Book Six, in which the closing section, describing the famous Athenian plague, is a counterpart of the opening encomium to Athens. There are also noticeable connections between the proems and finales of Books One and Two, which open and close with a view from above: in the proem of Book One, Lucretius invites the reader to go beyond the walls of the universe, and at the end of the book the reader really faces the infinity of the universe; at the beginning of Book Two, the reader views a tempest at sea from an elevated spot on *terra firma*, and at the end of the book he faces the announcement of the imminent destruction of our world, presumably from the fortified citadel of wisdom he has just reached.[71] Similarly, the proems to Books Three and Four, which emphasize the ethical aspect of Epicurus' teach-

[66] Classen 1968, 81.
[67] 6.43–95.
[68] *Pyth.* 85.
[69] *S* 11–13.
[70] It may also contain deliberate allusions to the Empedoclean and Epicurean theories. Effe 1977, 73 n. 20 sees Lucretius' Venus as a rival of Stoic Zeus (see also Asmis 1982). For Empedoclean echoes in the proem see Furley 1970, and Sedley 1998, 23–32. For Epicurean ideas of kinetic and katastematic pleasure, see Bignone 1945, vol. 2, App. 427–443.
[71] Cf. Brown 1987, 52; Possanza 1990 pointed out that Book Two opens with an image of storm and closes with an image of shipwreck (*ire* | *ad scopulum*, 1173–1174).

ing, are echoed by the closing ethical invectives against fear of death and against love. But in each of these cases the general tone of finale differs from the general tone of the corresponding proem.[72]

The endings of individual books seem to reflect the curious openness of the ending of the entire poem. In these endings there is either a total absence of any formal marks, or if existence of such marks is to be admitted, their nature must be described as much more subtle than the nature of those from the beginnings of the individual books. In general, it is a stylistic and thematic crescendo in the final section that signals the ending of each book, and therefore the term 'finale' seems to describe it most appropriately.[73] Books Two and Six end with memorable descriptions of the despair of a farmer and the plague, while Books Three and Four end with the invectives composed in the tone of popular philosophical discourse, in clear contrast with the tone of the preceding sections.

One identifiable feature of the very ending lines in a book is the occurrence of a general thought or image. For example, Books One and Five close with an image of the gradual spreading of light from one level to another. This image stands in clear contrast with the tone of the preceding part, and it is meant to redirect the attention of the reader to the plan of Lucretius' exposition (Book One), or to the general concept of the human process of understanding (Book Five). By the time we meet this image in Book Five, we are already familiar with it (and possibly with the preceding two lines).[74] Therefore the image becomes a formula—formulae are particularly convenient ending markers.[75] The fact that a general thought or maxim (γνώμη), has the force of a formulaic ending marker is well known in Greek choral poetry.[76] Since, as Aristotle observed,[77] γνώμη has a force of logical conclusion, it may also round off a prose segment. Lucretius'

[72] F. Giancotti, who analyzed the beginnings and the endings of the particular books, saw finales as the counterpoints of proems, and interpreted the antithesis of the optimistic tone of proems and the pessimistic tone of finales as an expression of Lucretius' "relative optimism" (Giancotti 1989, 346–349).

[73] Brown, 1987, 47–49; Erler 1994, 413–414.

[74] 5.1388–1389 are deleted by Lachmann and most of the subsequent editors. The lines seem to interrupt rather than round off Lucretius' account of the origin of music.

[75] This is of course a common strategy in conversational discourse—see e.g. Norrick on formulaic story closings and local formulaicity in conversational narratives (Norrick 2000, 49–53 and 55–57).

[76] See Maurach 1988, 218 n. 4.

[77] *Rh.* 2. 21, 1394a–1395b.

tendency to mark the end of a book by leading the mind of the reader from particular to general is also obvious in the closing five lines of Book Three, and even more so in the closing couplet of Book Four, which clearly has gnomic force:

nonne uides etiam guttas in saxa cadentis
umoris longo in spatio pertundere saxa? (4.1286–1287)

> Do you not see that even drops of water falling upon a stone in the long run beat a way through the stone?

Lucretian finales cannot easily be connected with the conclusions of Epicurus' books *On Nature*, such as for example: "Thus we have shown that… We shall go in detail through the things which ought to be said in connection with these in the following books" (ἀ[ποδέ]δεικται [ο]ὖν ἡμ[ῖ]ν [δ]ὴ ὅτι… τὰ δ' ἁρμόττοντα [ἑ]ξῆς τούτοις ῥηθῆναι ἐν ταῖς μετὰ ταῦτα διέξιμεν).[78] Or: "I think that what has been said up to now will suffice for you regarding each point in the following lecture" (ο[ἶ]μ[αι] δ' ὑμῖν [τὸ δέ]ον καθ' ἕκαστον εἶδος ἀκ[ρο]άσεως [τῆς] ἑξῆς περαι[νο]μένης τουτὶ ν[ῦ]ν [ἠ]δολε[σχ]ῆσθαι).[79] Nor do they directly evoke the didactic tradition: Nicander's poems end with a sphragis, while Hesiod's *Works and Days* and Aratus' *Phaenomena* end with direct advice to the addressee/reader. Only the finales of Books Three and Four may be taken as direct advice to the reader, as their tone and motifs of popular philosophical discourse suggest. The closures of individual books in *DRN* reveal a rather consistent pattern, but it is not easy to answer the question of why Lucretius leaves the endings of his books formally unmarked. Perhaps the best way to understand the author's intention here would be to consider the effect of this sort of closure on the reader. Speaking in the terms of the art of theater, the acts of Lucretius' play do not close with curtains. The closing images are not taken away from view, but simply left to hover in front of the eyes of the reader. In this way, they stay with the reader for a longer time than they would normally, inviting him to meditate on the message they convey.

Lucretius' closures of the sections within individual books are likewise never explicitly announced. One of the prominent ways in which a border between two segments of a book is announced is a repetition of a group of verses. Such a repetition obviously has the effect of impress-

[78] *Nat.* 24.50–51 Arr.
[79] *Nat.* 31.22 Arr.

ing a certain message on the mind of the reader more effectively. The following lines provide a good illustration of the way in which repetition enhances the visibility of the inner structure:

> *nam ueluti pueri trepidant atque omnia caecis*
> *in tenebris metuunt, sic nos in luce timemus*
> *interdum nilo quae sunt metuenda magis quam*
> *quae pueri in tenebris pauitant fugiuntque futura.*
> *hunc igitur terrorem animi tenebrasque necessest*
> *non radii solis neque lucida tela diei*
> *discutiant, sed naturae species ratioque.* (2.55–61)

> For just as children tremble and fear all things in blind darkness, so we in the light fear, at times, things that are no more to be feared than what children shiver at in the dark and imagine to be at hand. This terror of the mind, therefore, and this gloom must be dispelled, not by the sun's rays nor the bright shafts of day, but by the aspect and law of nature.

This complete section occurs three times in the poem,[80] and its last three verses occur once independently.[81] In each case, the verses mark the end of a proem. Due to their recurrence in this particular context, the verses take on a formulaic force and become one of the markers that render the structure of the book visible.[82]

Two sections of the proems of Book Five and Book Six are also closed by echoing verses:

> *nam bene qui didicere deos securum agere aeuom*
> *si tamen interea mirantur qua ratione*
> *quaeque geri possint, praesertim rebus in illis*
> *quae supera caput aetheriis cernuntur in oris,*
> *rursus in antiquas referuntur religiones*
> *et dominos acris adsciscunt, omnia posse*
> *quos miseri credunt, ignari quid queat esse,*
> *quid nequeat, finita potestas denique cuique*
> *quanam sit ratione atque alte terminus haerens.* (5.82–90=6.58–66)

> For if those who have been rightly taught that the gods lead a life without care, yet wander all the while how things can go on, especially those transactions which are perceived overhead in the regions of ether, they revert again to the old superstitions, and take to themselves cruel taskmasters, whom the poor wretches believe to be almighty, not knowing what can be and what cannot, in a word how each thing has limited power and a deep-set boundary mark.

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80 2.55–61, 3.87–93, 6.35–41.
81 1.146–148.
82 Another case of local formulaicity; see above, n. 75.

The final couplet first occurs in the proem to Book One,[83] and then in the argumentative part of Book One, where it closes one of the arguments proving the solid and indestructible nature of atoms.[84] As we shall see, a number of other repetitions in argumentative sections have the same function and appear at the closing points of an argument.

Finally, the famous recurrence of verses 1.926–950 at the opening of Book Four and the recurrence of verses 1.44–49 after the *excursus* on *Magna Mater* in Book Two should be considered not as design-flaws, but as instances of the same phenomenon. The repetition of 1.926–950 at 4.1–25 formally marks the beginning of the book, and at the same time the beginning of the second half of the poem.[85] (Another repetition of a longer passage that marks the beginning of a segment may be seen in Book Five, where the beginning of a section[86] repeats one of the arguments for the immortality of the soul from Book Three.)[87] The first occurrence of 1.44–49 closes the hymnic part of the first proem; the second occurrence of the lines at 2.646–651 does not literally close the *excursus* in Book Two, but it obviously introduces the paragraph that concludes the section. In addition to this, the lines in question recall the first κύρια δόξα of Epicurus (= *SV* 1), and thus have a strong formulaic force.

On one hand, Lucretian repetitions are clearly connected with the principles of composition that shaped Homeric poetry; on the other, repeated passages in *DRN* may reflect the style of Epicurus' *magnum opus*, a work well known for its repetitiveness.[88] The fact that the works of Lucretius and Epicurus coincide in this respect might be easily explained by the natural effects of repetition in language as a linear medium: the general rhetorical function of repetition in segmenting a text and organizing its message makes it an inevitable part of any explanatory account. For this reason the transformation of Epicurus' explanatory repetitiveness into the poetic formulaicity of *DRN* was not a difficult task.

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83 1.76–77; 6.65–66.
84 1.595–596.
85 Interesting parallels for this "proem in the middle" are adduced by Conte, 1976.
86 5.351 ff.
87 3.806–818.
88 Smith 1966, 77–78.

Brown observes that "it is precisely the combination of proems and finales (with support from the major digressions) which chiefly organizes and enunciates the message of the poem",[89] and this observation does justice to the importance of proems and finales in Lucretius' exposition. But now I would like to carry my investigation over to the less inviting territory of the central, argumentative parts of the individual books.

Argumentative Sections

In the preceding chapter we pointed out the fact that Lucretius begins each segment in his exposition with a statement of the principle to be proven. This statement is then followed by a series of proofs, and often rounded off by repetition of the principle. The following discussion will concentrate on the formal cues by which Lucretius introduces new arguments in his account.

A closer look at the division of material in any printed edition of *DRN* quickly shows that the transitions between the segments of the argumentative parts are marked formally by a phrase or particle in the overwhelming majority of cases.[90] For example, the beginnings of big blocks are usually marked by some of the following expressions:

> Sed quoniam docui *solidissima materiai*
> *corpora perpetuo uolitare inuicta per aeuom*,
> nunc age, *summai quaedam sit finis eorum*
> *necne sit*, euoluamus… (1.951–954)
>
> *But since I have taught* that the bodies of matter are perfectly solid, and that they fly about continually unimpaired forever, *come now, let us unfold*…

or

> *Motibus astrorum* nunc *quae sit causa* canamus. (5.509)
>
> *Now let us sing* what is the cause of the motions of the heavenly bodies.

or

> Quod superest, *ne te in promissis plura moremur*,
> *principio mare ac terras ac caelum tuere*;
> *quorum naturam triplicem, tria corpora*, Memmi,

[89] Brown 1987, 51.
[90] Exceptions are 6.527 and 711.

tris species tam dissimilis, tria talia texta,
una dies dabit exitio… (5.91–95)

To proceed then, and to make no more delay with promises, observe first of all sea and earth and sky: this threefold nature, these three masses, *Memmius*, these three forms so different, these three textures so interwoven, one day shall consign to destruction…

It is even possible to connect specific opening phrases in the poem with specific levels of organization or specific types of content. For example, the phrase *illud in his rebus* (concerning these matters, the belief that…) usually introduces a rebuttal of a rival view[91]—a warning to the reader to beware is a common element in didactic poetry.[92] Also, the phrase *nonne uides* (do you not see), a rendering of οὐχ ὁρᾳᾶς and its variants in Homer, Empedocles, and Aratus, is used regularly to introduce an example or simile.[93] This consistent manner of demarcation may be compared to the use of specific headings in modern printing practice; the comparison is justified both by the MSS tradition, in which we find headings of the type we find in a regular τέχνη, e.g., *de*… (about = περὶ …),[94] and by the modern editions of Lucretius' text, where the visibility of the inner structure of the poem is enhanced by headings which indicate the content of the text to follow.[95] All modern printed editions of *DRN* reflect visually the distinction between the organizational levels of thematic blocks, their sections or subdivisions, and their individual arguments.

But this visual interface is superimposed on a communication process which essentially works on different principles. In order to understand the way in which Lucretius marks and distinguishes larger from smaller units in his exposition, we must turn from the world of the printed word to the world of the spoken word, and follow the idea of linear movement established at the beginning of this chapter.

A careful examination of the opening lines that introduce new material in *DRN* shows that Lucretius uses two distinct categories of aural cues: references to the situation of performance, and references to sequence, comprising the indicators of spatial, temporal, or logical

[91] 1.370ff.; 1.1052ff.; 2.308ff.; 3.370ff.; 4.823ff. The only exception to the rule is 2.216ff.

[92] Cf. Hes. *Op.* 706ff.; Nic. *Ther.* 128ff., 137ff.

[93] Schiesaro 1984.

[94] The *capitula* given in *Oblongus* and *Quadratus* are printed in Leonard-Smith.

[95] E.g., Leonard-Smith and Bailey.

sequence. The references to the situation of performance mainly mark the beginnings of the big thematic blocks of the poem, while those indicating sequence mark mainly the beginnings of the smaller segments. The introductory expressions that belong to the second category usually introduce individual arguments. In the remaining part of this chapter, I shall first discuss the cues that signal new thematic blocks, and then the cues that introduce the individual arguments of *DRN*.

I described the most prominent cues that introduce thematic blocks, represented by the examples given above, as references to the situation of performance. They can be found in various poetic genres, and they evoke the traces in Homeric poems we connect with the process of oral composition: at the beginning of his poem the poet directly refers to his activity, saying that his intention is to sing on a certain topic (he may also be complaining about the difficulties of his task, et sim.); the narrative begins, and at the end of the poem (or its section), the poet casts a look at what has been said and takes his audience back to the performing situation.[96] In this way, the poet marks the beginning and the end of his poem (or its sections) either by referring to the real situation of the performance, or through the use of a fictional performance, requiring his audience to imagine that they are witnessing the actual process of the composition of the poem. This procedure, in either of the two forms, is common in epic, choral and hymnic poetry,[97] and, according to K. Volk, it is an epic convention that becomes one of the defining elements of didactic poetry.[98]

As the examples above show, the characteristic forms of referring to the situation of performance in *DRN* comprise such expressions as *nunc age, nunc*, and *quoniam docui* (come now, now, since I have taught), a verb of saying in the first person future (e.g., *expediam, dicam, agam, edam, euoluam*), imperatives (e.g., *accipe, percipe*), and direct address (*Memmi*). These forms may be combined in different ways. Most of them are attested in Greek didactic poetry, where they are connected with other conventional features of this genre, such as the teacher-student constel-

[96] E.g., Homeric *Hymn to Apollo*, including verses 165–176.

[97] E.g., *Homeric Hymns*, Alcman, Pindar, Callimachus.

[98] Volk calls the fictitious coincidence of the time of performance and the time of composition of the poem "poetic simultaneity", and lists it as the fourth defining characteristic of the didactic genre, following 1. "the explicit didactic intention", 2. "teacher-student constellation", and 3. "poetic self-consciousness" (Volk 2002, 39–40).

lation.[99] Thus *nunc age* is paralleled by the conventional didactic hortatory phrase, νῦν δ' ἄγε, used by Empedocles and Nicander for example;[100] its shorter form *nunc* has a parallel in Hesiod.[101] While the reference to the preceding section is not documented in didactic poetry in its Lucretian version, *quoniam docui*, the announcements of the theme to follow in the first person future without doubt are.[102] The same is true for the imperatives inviting attention,[103] and for the direct address of the student.[104]

On the basis of these parallels, Lucretius' procedure has been understood to represent poetic departure from the prose methods of Epicurus. "Phrases such as *Quod superest* and *Nunc age* register the recurring moments of transition in the movement of the poem's argument, and in marking these Lucretius is the student not of Epicurus but of Empedocles", remarks D. Clay.[105] But these references to the situation of the performance, although clearly present in Greek didactic tradition, may be seen in a number of other genres as well. An address to a second person is common in all of the works in which the purpose can be described as *docere*, such as elegiac poems, assembly speeches, or τέχναι. For example, approximate equivalents to the phrase *nunc age* are common in the philosophical dialogue—cf. Plato's ἀλλ' ἄγε,[106] and Cicero's *age nunc*.[107] *Nunc* may be combined with the vocative and imperative in oratory.[108] Similarly, the type of transition from one segment of speech to another including such expressions as *nunc* and *dicam* is not

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[99] See Pöhlmann 1973, 836–876, who gives an outline of the development from Greek teacher-student constellation to Roman poet-Maecenas-princeps constellation; see also Volk 2002, 37–39.

[100] Emp. 53.1 Wright, and similarly ἀλλ' ἄγε in 5.4, 8.14, 14.1 Wright; Nic. *Ther.* 359, 528, 636, and ἀλλ' ἄγε in *Alex.* 376.

[101] *Op.* 202.

[102] For the use of verb of saying in the first person future in this context cf. Hes. *Op.* 106, 202, 286; Emp. 8.1 and 8.16, 12.1, 27.1 Wright; Nic. *Ther.* 4, 282, 494, 528, 636, 837; idem *Alex.* 5.

[103] Cf. Hes. *Op.* 274–275; Emp. 4, 8.14, 53.3 Wright; Nic. *Ther.* 157, 438, 589, 656, 759, ibid. 541, 715, ibid. 700; idem. *Alex.* 74, ibid. 396; Arat. *Phaen.* 778, 799, 832, 880, 892, ibid. 1142.

[104] Cf. Hes. *Op.* 27, 213, 274, 286, 641; Emp. 4.1 Wright.

[105] Clay 1983, 183.

[106] E.g., *Phdr.* 86e; 116d.

[107] E.g., *Fin.* 4.26; 5.70.

[108] E.g. *Nunc, … patres conscripti, … percipite* (Cic. *Catil.* 1.27). Cicero frequently opens a paragraph with *nunc* (e.g., *Verr.* 1.7, 1.32, 1.46).

uncommon in forensic and deliberative oratory,[109] nor in various technical treatises (τέχναι).[110]

The cues in question cross generic boundaries. They actually reflect the organizational principles of oral communication, and hence we see them in a variety of literary works which purport to be records of orally delivered speech, be they lyric or didactic poems, speeches, dialogues, or scholarly lectures. It is therefore not surprising that such expressions were also common in Epicurus' lectures. For example, a fragment from *On Nature* preserves a transition with key-words that strongly evoke those of Lucretius: "*Now* we will start to talk about the velocity of motion. *First,* …" (Περ[ὶ] δὲ τῆς κατὰ τὴν φορὰν ὑπαρχούσης ταχυτῆ[τος] νῦν λέγειν ἐπιχ[ειρ]ήσομεν. Πρῶτον μ[ὲ]ν…).[111] Assuming that this was not the only expression of this kind in the work, we see that, while rewriting Epicurus, Lucretius did not have to expend much effort in order to translate Epicurus' "simultaneity" into that of a didactic *epos*. As written works intended for the dissemination of knowledge, both *On Nature* and *DRN* are formed on the idea of an ongoing lecture. There is only one important difference between the two, namely the fact that we know that the lectures of Epicurus really took place in the past, while Lucretius' "lectures" are poetic fiction. But we see that in both works references to the situation of performance must be understood as organizational tools. They are systematically used to mark the borders between the big thematic blocks and provide orientation within whole that is not easily digestible.[112]

Our discussion up to now suggests that the first principle of oral communication that the references to the performing situation reflect could be described as return to the "now" of narration; the second

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[109] E.g., *Nunc ante quam ad sententiam redeo, de me pauca dicam* (Now before I come back to your votes, I shall say few words about myself, Cic. *Catil.* 4.20); *Nunc iam summatim exponam…* (At this very time I shall briefly relate…, idem, *Cluent.* 19); *Quoniam de… dixi, nunc de… pauca dicam* (Since I talked about… now I shall say few words about…, idem, *Manil.* 20).

[110] For the phrase *nunc de… dicam* (now I shall talk about) see Fuhrmann 1960, 57–58 (in *Rhetorica ad Herennium*), 69 (in Cicero's *De inuentione*), 77–78 (in Varro's *Res rusticae*).

[111] *Nat.* 24.36 Arr. For this type of transitional formula in a technical treatise, such as *Rhetorica ad Alexandrum*, see Fuhrmann, 1960, 28.

[112] While Wiltshire 1973, 35–36 connected expressions such as *nunc age* not with clarity, but with exhortation as one of Lucretius' main teaching strategies, Effe 1977, 69–70 noted briefly that the main function of these expressions is their pragmatic effect in segmentation of the text. For instances of Epicurus' general concern in his letters to provide his readers with the means of self-help (and parallels in Lucretius), see Erler 1994, 412.

could be described as establishing local formulaicity of certain phrases by their repetition.[113] Consecutive repetition of a formulaic cue is a particularly strong way of marking the argumentative segments of the poem. For example, in Book Two the phrase *quod quoniam docui, pergam* … introduces a section two times in a row.[114] But excessive repetition is generally avoided, since it violates the aesthetic principle of *uariatio*.

The technique of establishing formulaicity of certain phrases by their repetition is also visible among the elements that form the second category of cues in *DRN*, namely the indicators of spatial, temporal, or logical sequence. These recur in various thematic blocks with great regularity, although their sequence is rarely repeated in exactly the same order. The function of these cues is to introduce individual arguments within larger thematic blocks.

The first examples from this category include the adverbs *primum, principium*, and *principio* (first). These adverbs are also used to introduce bigger units, if they immediately follow the proem (e.g. in Books One, Three and Six). In Book Five and Book Six *principio* is used to introduce a subdivision of a thematic block as well. But most often, *principio* indicates the first in a series of individual arguments. All three adverbs should again be associated with the element of oral delivery rather than with a particular genre. Its Greek parallels are found both in poetry and prose. While on one hand Empedocles announces his main theory with 'first' (πρῶτον),[115] on the other hand Epicurus begins his exposition following the introductory paragraph both in *Letter to Herodotus* and in *Letter to Pythocles* with πρῶτον.[116] In Roman literature, examples are numerous: e.g., both the speech of Anchises in Book Six of the *Aeneid*, and the narration of Cicero's *Third Catilinarian* begin with *principio*.[117]

Some of the most prominent particles and phrases indicating spatial or temporal sequence are *praeterea*, *porro*, *huc accedit ut*, *adde quod*, *deinde, denique, postremo*; among those indicating logical sequence are *nam, igitur, quod, enim, quippe*. Most of these particles and phrases are regularly

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[113] Cf. the way in which formula *quae cum ita sint* (since that is how the things are) works in Cicero (e.g., *Catil.* 1.10; 2.26; 4.23).

[114] 478; 522. Cf. Cicero's consecutive repetition of parallel introductory phrases *Quamquam quid loquor?* (Why do I say this, *Catil.* 1.22) and *Quamquam quid ego te inuitem*… (Why should I be urging you, *Catil.* 1.24).

[115] E.g., "Hear first of the four roots of everything" (Τέσσαρα γὰρ πάντων ῥιζώματα πρῶτον ἄκουε, 7.1 Wright). Cf. also Hes. *Op.* 770, and Nic. *Ther.* 500.

[116] *Her.* 37; *Pyth.* 85. Also, cf. quotation above, p 74.

[117] *Aen.* 6.724 and *Catil.* 3.3.

used in prose, both in enumeration and in narration,[118] and some of them are properly prosaic.[119] Also, conjunctions such as *et, quoque, sed, nec, at, aut* are used in transitions between individual arguments. Unlike the expressions referring to the situation of performance, which produce a temporary break in narration, all of these forms indicate that the transitions occur within a closed and uninterrupted succession of arguments.

The variety of the expressions employed to link the individual arguments in *DRN* is an achievement of Lucretius' that has yet to be fully appreciated. His Greek predecessors worked within a language that had a well developed system of connecting particles. This is why no Greek model of Lucretius has a system of introductory phrases designed so carefully as the one we see in *DRN*. The particles and conjunctions such as δὲ, καὶ μὴν, or ἀλλὰ μὴν are the most usual way of connecting two arguments or sections in didactic poems, and they recur with a steady regularity in the scientific prose of Epicurus.[120] Lucretius, on the other hand, had to undertake a considerable effort in order to compensate for this aspect of the poverty of Latin language: hence an elaborate variety of particles and formulaic expressions such as *huc accedit uti, quod superest, adde quod, fit quoque ut, quod genus, hoc genus in rebus, illud in his rebus*, standing in sharp contrast with the less sophisticated manner of coordination we find in the contemporary technical treatises.[121]

As I have observed, despite their variety, the expressions that coordinate individual arguments are used in repetitive series or clusters and thus function on the same principle as references to the situation of performance. Within the sets of arguments we also find doublets, namely two identical particles or conjunctions introducing two consecutive arguments;[122] but in general excessive repetition is avoided.

The strategies Lucretius uses for marking the ending of particular sections and arguments will by this time already be familiar. The poet often ends a section or an individual argument with a general principle.

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[118] See *primum, porro, praeterea, deinde, denique* (with *quoque* and *postremo*) in Hand 1829–1845. An example of sequence in Cicero's prose is *nat. deor.* 1.104 (*primum, deinde, postremo* [usually emended], *denique, postremo*), see Pease *ad loc.*

[119] E.g., *praeterea, igitur, quippe* (Axelson 1945).

[120] In his *Letter to Herodotus* Epicurus is mostly satisfied to use simply καὶ μὴν or ἀλλὰ μὴν over and over again.

[121] E.g., in *Rhet. Her. item* is once repeated 21 times in a row (2.39–45); cf., however, the series *primum, praeterea, postremo* in a polemic context (4.9–10).

[122] E.g., *denique* in 3.558 and 3.580, *praeterea* in 3.670 and 3.679.

For example, *corporibus caecis igitur natura gerit res* (therefore nature works by means of bodies unseen), where the conclusion is reinforced by non-poetic *igitur* (therefore).[123] Sometimes, the closing line or lines contain a general thought or a maxim, e.g.,

> *nec nox ulla diem neque noctem aurora secutast*
> *quae non audierit mixtos uagitibus aegris*
> *ploratus mortis comites et funeris atri.* (2.578–580)
>
> And no night ever followed day, or dawn followed night, that has not heard mingled with their sickly wailings the lamentations that attend upon death and the black funeral.

or

> … *at non sunt inmortali ulla pericla.* (3.775)
>
> But there are no dangers for the immortal.

or

> *nam neque de caelo cecidisse animalia possunt*
> *nec terrestria de salsis exisse lacunis.* (5.793–794)
>
> For animals cannot have fallen from the sky, nor can creatures of the land have come out of the salt pools.

General principles may be reinforced by expressions that do not have a concluding force, but for example may have the force of urging, such as *quare etiam atque etiam* [sc. *dico*] (therefore again and again [sc. I say]).[124] Just like *igitur*, the expression is prosaic and has parallels in a number of Cicero's orations and philosophical works.[125] The reinforcing expressions may be repeated several times within a relatively short span, for example *usque adeo* (to that extent) in Book Three.[126] They may also be used twice in a row, as *quapropter* (on which account) in the case of two individual arguments proving the mortality of the soul.[127]

At times only the repetition of a striking phrase creates a formula which is used to mark the closing of a section or argument. Take for example the asyndetic phrase in

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[123] 1.328. Cf. 1.368–369.
[124] 1.1049–1051, 2.377–380, 3.227–230.
[125] See Schiesaro 1990, 23 n. 4.
[126] 3.320–322, 3.391–395, 3.523–525, 3.622–623.
[127] 3.668–669, 3.677–678 repeated later at 3.711–712. For accompanying expressions *putandumst* and *fateare necessest* and their parallels in philosophical discourse see Classen 1968, 86.

propterea quia, quae nullis sunt partibus aucta,
non possunt ea quae debet genitalis habere
materies, uarios conexus pondera plagas
concursus motus, *per quae res quaeque geruntur.* (1.631–634)

Because things which are not augmented by any parts cannot have what generative matter must have—*the variety of connections, weights, blows, concurrences, motions,* by which all things are brought to pass.

The same phrase is repeated with slight alternations at the end of sections in 2.726–727 and 2.1021.

A specific case of repetition is ring-composition, and some of Lucretius' arguments display this particular form of sectional organization. For example, the section on hearing begins with a claim that sound has a bodily nature:

Principio auditur sonus et uox omnis, in auris
insinuata suo pepulere ubi corpore sensum.
corpoream enim uocem constare fatendumst
et sonitum, quoniam possunt inpellere sensus. (4.524–527)

In the first place, every sound and voice is heard, when creeping into the ears they have struck with their body upon the sense. *For we must confess that voice and sound also are bodily,* since they can strike upon the sense.

The arguments to support the claim are adduced, and the last argument, that speaking exhausts the body, is concluded by repetition of the thesis:

ergo corpoream uocem constare necessest,
multa loquens quoniam amittit de corpore partem. (4.540–541)

Therefore the voice must be bodily, since by much speaking a man loses a part of his body.

The fact that ring-composition is not only a poetic device for the organization of material, but also a strategy well documented in Attic oratory has been shown by I. Worthington.[128] Similarly, it has already been pointed out that Epicurus' letters to Herodotus and Pythocles, framed by the author's address to the dedicatees, accompanied by the repetition of certain key words, are structured by ring-composition.[129] Of course, the strategy is not a mark of a particular genre, but a staple of oral communication.[130]

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128 Worthington 1991.
129 Schrijvers 1970, 171–172.
130 See for example the second version of the conversational story "Barn Burning" in Norrick 2000, 96–97.

A reference to the present moment may also mark the end of an argument. Thus Lucretius concludes the ends of two arguments consisting of a series of examples (one illustrating people dreaming of their daily interests, and the other establishing the line of progress in literature and science), with references to his own poetic activity and to the here and now of the poem.[131]

The importance of the ending of a section as a junction in the structure and meaning of the text is most obvious in the case of cross-references. Most explicit cross-referential formulas in *DRN* mark the end of a section or argument. They may look back, e.g.,

> *id quod iam supera tibi paulo ostendimus ante.*[132] (1.429)
>
> … as I have already shown you above a little while ago.

Or they may look ahead, e.g.,

> *quae tibi posterius, Memmi, faciemus aperta.*[133] (2.182)
>
> All this, Memmius, I will make clear to you later.

Cross-references are a standard means of the organization of material both in oratory and in technical treatises, where they mostly appear at the ends of segments.[134] But we also have a fragment from Epicurus' *On Nature*, in which Epicurus promises that he will return to a point: "But this will be expounded at greater length another time. Now…" (Ἀλλὰ γὰρ αὖθίς που ταῦτα μηκυνθήσεται. νῦν δέ…).[135] The fragment shows that cross-references were present in his work as well, where they presumably also marked the endings of particular segments.

The Organizational Principles of DRN

The preceding discussion sought to capture the most important organizational principles in *DRN* through a close examination of the beginning and the ending parts of its segments. This method enabled us to

[131] 4.969–970; 5.335–337.
[132] Repeated with minor alternation at 4.672. Cf. 1.857–858, and 1.907 (as a part of the repetition of the letters-atoms analogy).
[133] Cf. the promise in 5.155.
[134] E.g. *Rhet. Her.* 3.22; 3.28 (marking the beginning of the discussion).
[135] *Nat.* 29.26 Arr.

view the structure of the poem under the lens of the general laws of oral communication. As a result, while remaining sensitive to Lucretius' adherence to the conventions of didactic *epos*, we were able to pay adequate attention to the fact that both the *DRN* and Epicurus' *On Nature* are works formally organized as lectures. The main merit of this approach was our identification of the rhetorical elements that enabled Lucretius to transfer smoothly the content of his *Prosavorlage* to didactic form.

The ideas that organize the poem on its global level, namely the idea of a cycle and the idea of a causal chain, clearly mirror the main principles of Epicurus' philosophy. But, as we saw, both the frame of the whole poem and the frames of individual books must be understood symbolically (and thus have a strongly pronounced meditative potential). The principles of arrangement on the lower levels are more formal, and comprise references to the situation of performance and references to sequence. We observed that these references are a part of didactic vocabulary, but we were able to see that they also have close parallels in Epicurus. Combining epic cues characteristic of oral poetics with those of prose, Lucretius was able to preserve under the imprint of poetic tradition the recognizable features of Epicurus' language and thought.

Two particular organizational features of *DRN* that we have examined, repetition and formulaicity, provide further support for the thesis that Lucretius deliberately combined the features of Epicurus' prose with those of didactic *epos*. As we saw, the poet intentionally used formulaic style on all levels of the poem.[136] On one hand, formulae are a feature we normally connect with Homeric poetry; on the other, the formulaic nature of Lucretius' verse should be connected with the poet's didactic purpose,[137] which he shared with his master. Formulaic repetitions are a Janus-like feature, accommodating both the creative process of composition and the cognitive process of comprehension of a text.[138] For an illuminating interpretation of repetition as a crucial organizational principle of the building blocks of *DRN* it is not enough to stop at the idea of epic convention; one must go beyond the level of form, and take into consideration the pragmatic function of repetition.

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136 Cf. Minyard 1978, 62.
137 Cf. Hellegouarc'h 1986, who shows this through his metrical analysis.
138 Cf. Ingalls 1971.

With this function on our mind, we better understand why Lucretian epic procedures could also reflect the alleged repetitiveness of Epicurus' *magnum opus*.[139]

Even though *DRN* shows a lack of the final touch, it is rather clear that its general design is complete. As M.F. Smith already pointed out, it is obvious that, before he set out to compose the poem, Lucretius already had a thorough knowledge and a firm grasp of Epicurus' physics;[140] we may say that in this respect his authority is comparable to that of his master. It is on account of this knowledge that he could even think of organizing so vast an array of material into such a monumental structure as *DRN* (in a case like this, it is highly speculative to talk about the stages of composition and the question for which section certain lines were written first). But besides his comprehensive knowledge of Epicurean philosophy, Lucretius also had a broad literary erudition, and an extraordinary literary sense, which allowed him to identify and exploit common literary strategies from different sources, blurring the boundaries of particular genres. It was his keen sense for the universal nature of certain categories of text composition that enabled him to compose *DRN*. The integration that Lucretius achieved in writing essentially reflects Epicurus' belief in all-encompassing nature and universal value of his philosophy.

[139] The repetitions in *DRN* are *not* a sign of haphazard composition and an invitation to bracket. This mistaken reasoning has a long history, and it was most recently and most rigidly applied to the poem by M. Deufert 1996.

[140] Smith 1966, 75.

CHAPTER THREE

ARGUMENTS AND ORNAMENTS

In the introduction we made a case for Epicurean argumentation as an essentially rhetorical phenomenon. Before we enter rhetorical analysis of the arguments advanced in *DRN*, let us corroborate this starting point with some further explanation.

The word 'argument' denotes a kind of proof. The *differentia specifica* of this kind of proof is best understood vis-à-vis demonstration. Demonstration is a formal logical proof; argument is a rhetorical proof. Unlike demonstrations, which may use artificial language (in logic or mathematics for example) to present objectively true conclusions, regardless of an audience, arguments always use natural language, present relative truths, and are addressed to an audience. The distinction between the two types of proof goes back to Aristotle's distinction between "analytical" (demonstrative) reasoning, discussed in the *Prior* and *Posterior Analytics*, and "dialectical" (argumentative) reasoning, discussed in the *Topics, Rhetoric*, and *Sophistical Refutations*.[1]

Within this division Epicurus' scientific discourse falls under the heading of argumentation. While Epicurus did claim that he dealt with absolute truths, his explanations were entirely audience-oriented, and he used reasoning to explain notoriously controversial phenomena, such as the nature of gods. Although he somewhat confusingly aspired to use natural language in the way in which artificial languages are used, i.e., with one-to-one correspondence between *significans* and *significatum*,[2] and although he maintained certain standards of proof, Epicurus rejected formal logic and mathematics. Ignoring the development which these disciplines had undergone in Aristotle's philosophical system, Epicurus introduced a radically empirical scientific methodology, based entirely on sensations as the fundamental means of acquiring correct knowledge.[3] The main principle of Epicurus' methodology was that an explanation must be in accordance with the data provided by

[1] Ar. *Top.* 1.1, 100a–b; cf. Perelman 1977, 15–16, 23–24.

[2] *Her.* 37–38.

[3] D.L. 10.31. The other criteria of Epicurus, namely general concept and feelings,

the senses, and must not contradict these data. Equipped with this simple parameter (κανών),[4] Epicurus set out to explore areas inaccessible to our senses, such as the microscopic realm of atoms, the nature and workings of our soul, and astronomical phenomena.

It is clear that Epicurus' empirical method is conceptually analogous to rhetorical argumentation and its prerogatives. First, both methods rely upon perceptions, which are necessarily taken to be true and, as such, lay down the foundations of our knowledge.[5] Second, both methods develop inferences about unknown things on the basis of things known. It is on account of these analogies that the authors of the Hellenistic period who undertook to defend rhetoric against Plato's charge that it was a mere knack could define it as a τέχνη based on empirical observations and inductive inferences.[6] Still, Epicurus and his followers denied the theoretical similarity between their empirical method and rhetorical method most energetically. The denial was in fact a defense of the central practical aim of Epicureanism: there was nothing more distant from the Epicurean ideal of the lack of disturbance than a life devoted to politics and rhetoric. Philodemus, for example, allowed that everyone reasoning about a phenomenon inaccessible to the senses has to make inferences about the invisible on the basis of what is visible;[7] as we saw, under the influence of Zeno of Sidon he even granted to "sophistic" (i.e., epideictic) rhetoric the status of τέχνη;[8] but on the other hand he criticized at length Epicurus' teacher Nausiphanes[9] (who actually made the connection between physics, ethics, and rhetoric that

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and a further criterion added by the Epicureans, the image-making contact of the mind, are all derivatives of sensation.

[4] As it has often been pointed out, the principle is a version of Anaxagoras' "the visible is an image of the invisible" (ὄψις τῶν ἀδήλων τὰ φαινόμενα, 59 B 21a DK). I would like to add that the thought is also a popular maxim and common literary motif: e.g., Solon's "infer about invisible things by means of visible things" (τὰ ἀφανῆ τοῖς φανεροῖς τεκμαίρου, Stob. 3.1.172 β′ Wachsmuth-Hense), Euripides' "let us infer about invisible things by means of things at hand" (τεκμαιρόμεσθα τοῖς παροῦσι τἀφανῆ, fr. 574 Kannicht), and Isocrates' "for the invisible is discerned most quickly by means of the visible" (τὸ γὰρ ἀφανὲς ἐκ τοῦ φανεροῦ ταχίστην ἔχει διάγνωσιν, *Dem.* 34).

[5] According to Protagoras, knowledge is nothing but perception (Plat. *Tht.* 151e); the view goes back to Leucippus and Democritus, who "thought that the truth is in the appearing" (ᾤοντο τἀληθὲς ἐν τῷ φαίνεσθαι, Ar. *GC* 315b = 67 A 9 DK).

[6] For an overview see DeLacy 1978, 174–181.

[7] Ἐχ[όμε]νον γὰρ παν[τὶ] τάχα ἀ[κολο]υθε[ῖ] τῶι τῶν ἀδήλων τι ταῖς αἰσθήσεσι θεωροῦντι τὸ διὰ τοῦ φανεροῦ τὸ ἀφανὲς συλλογίζεσθαι, *Rh.* 2.38 Sudhaus.

[8] Above, pp. 8–9.

[9] *Rh.* 2.1–50 Sudhaus.

inevitably informed Epicurus' system).[10] Nausiphanes thought that a shared method of reasoning enabled natural philosophers and politicians to interchange their subjects and be equally successful in each other's fields.[11] A foreseeable consequence of this view would be the universal supremacy of rhetorical education, to which Epicureans could never subscribe. Sextus' account of Epicurus' denial that he was a student of Nausiphanes and his declaration that he was self-taught makes it rather clear that Nausiphanes' interest in rhetoric was exactly the point with regard to which Epicurus wished to distance himself from his teacher.[12] Taken over by Metrodorus,[13] on whom Philodemus relied, the critique of Nausiphanes was a continuing topic in the school. In short, Epicureans had to make a considerable effort to set a clear distinction between the method and goals of a natural philosopher and those of an orator.[14]

Lucretius' poetics reflects Epicurus' methodology: it offers explanations of what is invisible by presenting what is visible. In the poet's view, physical sensations have the greatest persuasive force. Unfortunately, most of the material he expounds upon does not belong to the category of physical sensations:

nec me animi fallit quam res noua miraque menti
accidat exitium caeli terraeque futurum,
et quam difficile id mihi sit peruincere dictis;
ut fit ubi insolitam rem adportes auribus ante,
nec tamen hanc possis oculorum subdere uisu
nec iacere indu manus, uia qua munita fidei
proxima fert humanum in pectus templaque mentis.[15] (5.97–103)

[10] *Rh.* 1.287–288 Sudhaus. On the teaching of Nausiphanes see J.I. Porter 2002.

[11] *Rh.* 2.19–28; 35–39 Sudhaus.

[12] S.E. *M.* 1.2–4.

[13] Phld. *Rh.* 2.45 Sudhaus.

[14] According to Philodemus, while an orator uses ἐνθυμήματα, and is concerned with probability, a natural philosopher uses σημεῖα and πιστώματα, and is concerned with truth (*Rh.* 1.284–286 Sudhaus); while an orator is concerned with the opinions of his audience, a natural philosopher is not (*Rh.* 2.11–17 Sudhaus); most importantly, while an orator takes for granted the existing structure of power, a philosopher does not care for anything that has no use in finding happiness (*Rh.* 2.30–32 Sudhaus). For the Epicurean view that poets and rhetoricians lack philosophical method cf. DeLacy 1939, 86–87 n. 9 and ff. For the Epicurean claim that philosophy must replace all τέχναι such as rhetoric, cf. Blank 1995.

[15] As Bentley observed, an allusion to the lines of Empedocles: "it is impossible to bring (sc. the divine) close to the reach of our eyes, or the grasp of our hand, the ways by which the widest road of persuasion enters human mind" (οὐκ ἔστιν πελάσασθαι ἐν ὀφθαλμοῖσιν ἐφικτόν [sc. τὸ θεῖον] | ἡμετέροις ἢ χερσὶ λαβεῖν, ᾗπερ τε μεγίστη | πειθοῦς

> Yet I do not forget how novel and strange it strikes the mind that destruction awaits the heavens and the earth, and how difficult it is for me to prove this by argument; as happens when you invite a hearing for something unfamiliar, which you cannot bring within the scope of vision nor put into the hands, whereby the highway of belief leads straight to the heart of man and the precincts of his intelligence.

Translated into the language of Aristotelian rhetoric, vision and touch provide proofs that do not require rhetorical art (ἄτεχνοι, *inartificiales*); all other proofs are developed by application of the art of rhetoric (ἔντεχνοι, *artificiales*).[16] Thus Lucretius inherited from Epicurus the lack of direct evidence for many of his claims. His solution as a poet was to skillfully adapt the conventional means of poetic literary expression to his presentation of Epicurus' discoveries;[17] the reason why this adaptation was possible lies in the rhetorical nature and latent poetic affinities of Epicurus' philosophical argumentation.

Lucretius' use of the elements of poetic literary expression that traditionally belong to the heading of style is not easily captured by the mainstream descriptive tools of Greco-Roman rhetoric. Metaphors, similes, *adynata*, puns, onomatopoeia and other stylistic features in *DRN* cannot be described by the traditional notions of ornamentation and cosmetics, frequently adopted by Cicero,[18] and even reflected in Lucretius' own vocabulary.[19] These notions rest upon the theoretical distinction between *res*, the *things* one has to say, and *uerba*, the *words* one uses to say them, often expressed as a distinction between the *content* and the *style* of speech: the content comprises the actual proofs (the headings are *intellectio, inuentio, dispositio*) that make the body of the speech; the style (the heading is *elocutio*) adds accessory ornamentation to this body.[20] Nor can Quintilian's slightly more organic view that the features of style generally enhance the credibility of the arguments[21] do full justice to Lucretius' achievement. The truth is that the features of style in *DRN* most often constitute the very sinews and limbs of the poem.

ἀνθρώποισιν ἁμαξιτὸς εἰς φρένα πίπτει, fr. 96 Wright [31 B 133 DK]). Diogenes Laertius gives various evidence that Empedocles was commonly regarded as the inventor of rhetoric (8.57–58). Cf. Quint. *Inst.* 3.1.8.

16 Ar. *Rh.* 1.2.2, 1355b; cf. Cic. *De or.* 2.116.

17 Cf. Schrijvers 1970, 38 and 88–91.

18 E.g., *Orat.* 78–79; *Brut.* 262.

19 6.82–83.

20 Cf. Lausberg §45.

21 *Inst.* 8.3.5–6.

In order to find more suitable analogies for understanding Lucretius' idea of the function of style, we should turn to another traditional set of metaphors for the stylistic features of speech. This set of metaphors is derived from the image of light.[22] The potential clarity of the word, as opposed to the obscurity of the matter, is a recurring theme in *DRN*. One of the important philosophical opponents refuted in Book One, Heraclitus, is presented as

> *clarus ob* obscuram linguam *magis inter inanis*
> *quamde gravis inter Graios qui uera requirunt.* (1.639–640)

> … one illustrious for his *dark speech* rather amongst the frivolous part of the Greeks than amongst the serious who seek the truth.

For hidden meanings and euphonious phrases induce those with less keen minds to confuse aesthetic pleasure with truth:

> *omnia enim stolidi magis admirantur amantque*
> *inuersis quae sub uerbis latitantia cernunt,*
> *ueraque constituunt quae belle tangere possunt*
> *auris et lepido quae sunt fucata sonore.*[23] (1.641–644)

> For dolts admire and love everything more which they see hidden amid distorted words, and set down as true whatever can prettily tickle the ears and all that is varnished over with fine-sounding phrases.

Lucretius on the other hand, as we hear in the important programmatic passage in the introduction to Book One, strives for clarity:

> *nec me animi fallit Graiorum obscura reperta*
> *difficile* inlustrare *Latinis uersibus esse,*
> *multa nouis uerbis praesertim cum sit agendum,*
> *propter egestatem linguae et rerum nouitatem.*
> *sed tua me uirtus tamen et sperata uoluptas*
> *suauis amicitiae quemuis efferre laborem*
> *suadet et inducit noctes uigilare serenas,*

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[22] I.e., Cicero's *lumen* for σχῆμα (*Orat.* 83; 134ff.; *Brut.* 141). For the image of light in Cicero's rhetorical works see Fantham 1972, 169–170. Note that ancient literary critics used *lumen* in the sense of "shining ornament", e.g., *Rhet. Her.* 4.32.

[23] Lucretius' critique of the style of Heraclitus could also be applied to the euphonist tradition, according to which poetry should be judged by its musical qualities. Fragments of the first book of Philodemus' *On Poems* are a testimony of the heated debate between the Epicureans and 'the critics', i.e., the representatives of the euphonist tradition influenced by Stoic teaching, over the relationship of sound and content in poetry (see Janko 2000, 9–10 and 120–189). Still, the main target of Lucretius' attack remains Heraclitus. The lines parody not only his style, but his thought as well: "a stupid man likes to be amazed by any account" (βλὰξ ἄνθωπος ἐπὶ παντὶ λόγῳ ἐπτοῆσθαι φιλεῖ, 22 B 87 DK [= 109 Marcovich]). See Marković, forthcoming (b).

> *quaerentem dictis quibus et quo carmine demum*
> clara *tuae possim praepandere* lumina *menti*,
> *res quibus occultas penitus conuisere possis.* (1.136–145)

> Nor do I fail to understand that it is difficult *to shed light* on the dark discoveries of the Greeks by Latin verses, especially since we have often to employ new words because of the poverty of the language and the novelty of the matters; but still it is your merit, and the expected delight of your pleasant friendship, that persuades me to undergo any labor, and entices me to spend the tranquil nights in wakefulness, seeking by what words and what poetry at last I may be able to display *clear lights* before your mind, whereby you may see into the heart of things hidden.

In another important passage containing a reference to his own work, Lucretius explains that one of the sources of pleasure that he derives from writing poetry is the fact that he is composing *obscura de re tam lucida*… | *carmina* (so lucid verses on a subject so dark).[24] His composition of verse should thus be observed as a part of his main task, namely *artis* | *religionum animum nodis exsoluere* (to loose the mind from the close knots of superstition),[25] and the enlightening effect of his words is to be imagined as a continuation of the work of Epicurus, who relocated human life *tantisque tenebris* | *in*… *tam clara luce* (from that deep darkness… in light so clear).[26] As it has often been suggested, Lucretius' programmatic opposition *lucidus-obscurus* should be connected with the rhetorical aspect of clarity, σαφήνεια, advocated by both Epicurus and Philodemus.[27] The concept of clarity was already an important subject in Aristotle's and Theophrastus' work on rhetoric. In addition to this, the beginning of John Philoponus' commentary on the *Isagoge* of Nicomachus of Gerasa suggests that Aristotle explained the term "wisdom", σοφία, through the etymological link which connects the word with "clarity", σάφεια, which is in turn derived from "light", φῶς.[28] According to Philoponus, Aristotle described "wisdom", σοφία, as "the knowledge bringing things to light" (ἡ εἰς φῶς ἄγουσα ἐπιστήμη). If the information is trustworthy,[29] Epicurus' opinion that σαφήνεια should be

[24] 1.933–934. As in the preceding passage, *obscura* = τὰ ἄδηλα (cf. Clay 1980, 107), but the metaphor should not be lost from view.
[25] 1.931–932.
[26] 5.11–12. The image is common in Epicurean writings. Diogenes of Oenoanda says that Epicurus brought the παρενκλιτική to light (fr. 54 Smith).
[27] See Boyancé 1963, 291–292; Bartalucci 1968, 63–65; Shrijvers 1970, 203 ff.; Clay 1980, 106–108; Garbugino 1987, 16–19; Milanese 1989, 107–114; Calboli 2003, 190–196.
[28] Fr. 8 Ross.
[29] For reservations cf. Milanese 1989, 107 n. 2.

the only requirement of style might have been informed by Aristotle's etymological link. However, it is certain that Epicurus shared with Aristotle the aim to discredit rhetorical education by relocating its praiseworthy elements into the realm of philosophy.[30]

Coming ultimately from the philosophical tradition, the principle of clarity becomes the main poetic principle of *DRN*, giving life to the central design of the poem, namely the exploitation of literary devices for the purpose of philosophical enlightenment. In the remaining part of this chapter I shall examine the way in which Lucretius subordinates the elements traditionally assigned to the domain of style (aesthetics), to those traditionally assigned to the domain of content or thought (logic). I shall try to show that the natural connection the poet makes between these elements, traditionally regarded as belonging to diverse domains, is a result of Lucretius' full activation of the rhetorical and poetic potential of Epicurus' arguments, motivated by the poet's wish to obtain both the most convincing form and the form most suitable for internalization.

In accordance with the claims I made about the essential methodological similarity between Epicurus' argumentation and the argumentation of orators, I shall classify the arguments in *DRN* under the headings of Cicero's *Topica*, a work addressed to the needs of a jurist. The *Topica* represent a version of the Aristotelian system of τόποι, i.e., headings under which arguments tend to fall.[31] According to Cicero, the system belongs to the general *ratio disserendi* (systematic treatment of discourse), which corresponds to Peripatetic logic (λογική). Cicero's two parts of *ratio disserendi*—*pars inueniendi* and *pars iudicandi* (invention and judgment)—correspond respectively to the Aristotelian topic (τοπική) and Stoic dialectic (διαλεκτική),[32] and thus reflect the two main applications of this system, namely rhetorical invention (τοπική), and dialectic judgment (διαλεκτική). Cicero's *Topica* are concerned with the procedure of invention: Cicero treated "places" (*loci*) as the sources from

[30] Cf. Aristotle's parodic remark that it is shameful to be silent and let Isocrates speak ([αἶ]σχρὸν σιωπᾶν, Ἰσοκρά[τη]ν δ' ἐᾶν λέγειν, Phld. *Rh.* 2.50 Sudhaus; cf. Cic. *De or.* 3.141; Quint. *Inst.* 3.1.14).

[31] For a detailed presentation of Aristotle's notion of *topos* see Slomkowski 1997, 43–61. For Cicero's system of *loci* Riposati 1947 is still indispensable; see also Reinhardt 2003. For a useful general introduction to the system of *loci* in modern rhetoric see Perelman-Olbrechts-Tyteca 1958, 1.112–132.

[32] Cf. Riposati 1947, 5–14.

which one draws arguments when one speaks on a certain subject.[33] In the *Topica*, he divided *loci* into two general categories, internal and external.[34] The latter category represents the aforementioned type of proofs that do not require the art of rhetoric (ἄτεχνοι, *inartificiales*).

The *loci* that will be discussed here belong to the group of internal *loci*, i.e., those that are inherent to the subject of discussion and that require the art of rhetoric (ἔντεχνοι, *artificiales*). The system of internal *loci* shows how arguments concerning a subject can be obtained from the employment of the following procedures: the analysis of the subject as a whole and as broken into parts (definition), in regard to its meaning (etymology), and in regard to the things with which it has a certain relationship (i.e., conjugation, genus, similarity, difference, the opposite, concomitants, consequents and antecedents and contradiction, causes, effects, and comparison). The sequence of *loci* in the following discussion will not reflect the sequence found in Cicero, but the prominence of certain types of arguments in *DRN*. The particular *loci* I shall include are arguments from analogy,[35] from contradiction,[36] from etymology,[37] from definition,[38] from cause and effect,[39] and from comparison.[40]

Arguments from Analogy

At the very beginning of his discussion of the *locus* from similarity Cicero observed that this type of argument is most common both in oratory and philosophy.[41] Under the heading of similarity he included inductive reasoning (in which one thing is proven by comparison with another thing) and the use of example. Our discussion will focus primarily on these two categories, and I shall label arguments of this type as "arguments from analogy".

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[33] *Loci ex quibus omnis argumenti uia non modo ad philosophorum disputationem, sed etiam ad hanc orationem, qua in causis utimur, inueniretur* (*De or.* 2.152).

[34] *Ex his locis, in quibus argumenta inclusa sunt, alii in eo ipso, de quo agitur, haerent, alii adsumuntur extrinsecus* (*Top.* 8).

[35] *Ex similitudine*, *Top.* 15 and 41–45.

[36] *Ex consequentibus et antecedentibus et repugnantibus*, *Top.* 19–21 and 53–57.

[37] *Notatio*, *Top.* 10 and 35–37.

[38] *Definitio*, *Top.* 9 and 26–34.

[39] *Ex causis, ex effectis*, *Top.* 22–23 and 58–67.

[40] *Ex comparatione*, *top.* 23 and 68–72.

[41] *Top.* 41.

According to Philodemus, Epicureans allowed only one method of inference, the method of analogy.[42] And indeed, analogy is one of the main methods of explanation in Lucretius. Arguments from analogy are the most inviting area for the study of the relationship between a type of argument and a stylistic feature in *DRN*. The close connection between the two categories probably cannot be more obvious than in the case of analogy and its poetic forms, simile and metaphor. This fact has not escaped Lucretian scholars. The ways in which Lucretius adapted the poetic forms of analogy to Epicurus' method of philosophical investigation have already been discussed by a number of authors, notably by D.A. West (1969), P.H. Schrijvers (1970, 1978), D. Clay (1996, =1998, 161–173), A. Schiesaro (1990), and C. Schindler (2000). The following analysis will reexamine the question within the context of our discussion of the affinities between the philosophical and rhetorical invention.

In his use of analogy Lucretius is true to his motivating idea, consciously amalgamating the method of Epicurus with its source, i.e., a long vein of literary and philosophical tradition.[43] Many Homeric similes, as G.E.R. Lloyd has shown, are used to explain phenomena or processes that are not accessible to our senses.[44] Some of the fragments from the work of Empedocles, such as fr. 15 Wright (31 B 23 DK), in which the reduction of the universe to four original elements is compared with the reduction of a painting to its basic colors, show how the Greek poet-philosopher drew on the resources of epic tradition by using a simile to illuminate a difficult philosophical concept.[45] Although Empedocles is most relevant for our reading of Lucretius, he is by no means the only Greek philosopher who uses poetic imagination as a vehicle for explaining philosophical concepts: in fact, metaphor and poetic imagery are essential features of Greek cosmological theories from their origins all the way through to Plato and Aristotle.[46] Epicurus' insistence on analogy must be viewed in the light of this tradition.[47]

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[42] Ἕνα μόνον τρόπον τῆς σημειώσεως, τὸν ὁμοιότητα, λέγομεν (Phld. *Sign.* XXXII 8–10).

[43] Cf. Schrijvers 1978; Dalzell 1996, 63; Schindler 2000, 145.

[44] Lloyd 1966, 183–192.

[45] Aristotle noted the Homeric force of Empedoclean metaphors (D.L. 8.57). For Empedocles' use of simile as a proof see Schindler 2000, 56–59. For a comparative discussion of Empedoclean and Lucretian analogies see Conte 1990, 20–25.

[46] For examples see Lloyd 1966, 210–303.

[47] For the common charge against Epicurus that he stole his dogmas from poets cf. above, pp. 45–46.

Lucretius' poetic experiment has actually brought Epicurus' method back to its original milieu, that of epic poetry.

Most important analogies in *DRN* have pre-Epicurean origin. Best known are the ones that can be traced back to the first atomists, Leucippus and Democritus. The analogy between the letters of alphabet and atoms belongs to this group.[48] Lucretius uses the analogy to generate examples in a number of different argumentative contexts: e.g., to explain the existence of atoms, to show the importance of their order for the nature of the whole, and to support the claim that different things conceal within them many different atoms. The examples based on analogy are occasionally supported by didactically appropriate features of poetic language. For example, the importance of the order and conjunction of the same atoms for the nature of the whole is illustrated by a memorable παρονομασία, *ignis* and *lignum*. The fire that breaks out in the forest is a result of the change of the order and conjunction of the same elements:

> *quo pacto uerba quoque ipsa*
> *inter se paulo mutatis sunt elementis,*
> *cum* ligna *atque* ignes *distincta uoce notemus.* (1.912–914)
>
> Just as the words themselves too consist of elements a little changed, when we mark *fires* and *firs* with a distinct name.

The two words consist of more or less the same letters, but the change in their arrangement has produced different meaning, just like a change in the arrangement of the same atoms produces two different entities, wood and fire.[49]

Another important analogy in *DRN* that originated with the first atomists is the one between the movement of dust in the air and the movement of atoms in a void.[50] Here Lucretius' descriptions of scattered particles of dust in the air are enhanced by typically Roman stylistic features, alliteration and illustrative word order:

> *multa minuta modis multis per inane uidebis*
> *corpora misceri radiorum lumine in ipso* (2.116–117)

[48] 1.196–197; 1.823–829; 1.912–914; 2.688–699; 2.1013–1022. Cf. Arist. *Metaph.* 985b; id. *GC* 315b; Pl. *R.* 278d; id. *Tht.* 202b ff.; Cic. *Nat. deor.* 2.93; D.H. *Comp.* 14.1; Phld. *Po.* 1.123 22–24.

[49] It is possible that this παρονομασία also hints at etymological connection between the two words, but as the argumentative context of the passage shows, this is only a peripheral issue. For Lucretius' use of etymology see below, pp. 110–122.

[50] 2.112 ff. Cf. Arist. *De an.* 404a.

You will see many minute particles mingling in many ways throughout the void in the light itself of the rays…

multa uidebis enim plagis ibi percita caecis
commutare uiam retroque repulsa reuerti,
nunc huc nunc illuc, in cunctas undique partis. (2.129–131)

For there you will see how many things set in motion by unseen blows change their course and beaten back return back again, now this way, now that way, in all directions.

Both stylistic features contribute to the clarity of the image in a very straightforward way: alliterations underscore the multitude of particles (*m-m-m-m*)[51] and their movement to and fro (*re-, re-, re-; -unc, -uc, -unc, -uc*); the adjective-noun separation in the first couplet illustrates the scattered state of particles.[52] In the following section, the image of the movement of atoms ceases to be an analogy: the particles of dust do not move to and fro *like* atoms, they move *because* of the movement of atoms.[53] Establishing a causal link between the movement of the atoms and the image, Lucretius turns the poetic image into a part of his argument.

Lucretius also makes effective use of the traditional analogy between the world and the living organism. The analogy is a commonplace in Greek philosophy,[54] occurring in different and diverse philosophical systems. The Stoics used it to prove their claim that the world is guided by a rational principle.[55] Lucretius, on the other hand, uses it mainly to prove that the world is mortal and that it will ultimately perish. Regardless of whether the analogy is introduced as a formal simile (*ueluti… sic*, or *ut… sic*)[56] or not,[57] it is based on the choice of words emphasizing the corporeal aspect of the living organism (*membra mundi; corpus; corpus natiuum, mortale*). This vocabulary brings to the surface the point of correspondence that makes the analogy possible: both living organisms and the world belong to the general category of compound bodies; as we have learned earlier in the poem, all compound bodies

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[51] Cf. Friedländer 1941, 27–28.

[52] Kenney 1971, 23–26 observes that Lucretius avoids wide adjective-noun separation in his expository passages, since it could easily create an obstacle for reader's understanding of the difficult subject matter.

[53] Cf. Schiesaro 1990, 29.

[54] Lloyd 1966, 232–272.

[55] E.g., Cic. *Nat. deor.* 2.21 ff.

[56] E.g., 1.1038–1041; 5.539–549.

[57] E.g., 5.235–246.

must go through the cycle of birth, ἀκμή, and decay. The analogy does not describe a similarity; it clarifies a causal link.[58]

A notable form of this analogy is the poetic representation of the earth as a mother.[59] This image has great importance for the interpretation of the poetic language of *DRN*. In Book Two, Lucretius uses the analogy *terra-mater* to explain that a poetic metonymy of this sort may be used only as long as it does not stain the correct understanding of the world with superstition:

> *hic siquis mare Neptunum Cereremque uocare*
> *constituet fruges et Bacchi nomine abuti*
> *mauolt quam laticis proprium proferre uocamen,*
> *concedamus ut hic terrarum dictitet orbem*
> *esse deum Matrem, dum uera re tamen ipse*
> *religione animum turpi contingere parcat.* (2.655–660)

> Here if anyone decides to call the sea Neptune, and corn Ceres, and to misapply the name of Bacchus rather than to use the title that is proper to that liquor, let us grant him to dub the round world Mother of the Gods, provided that he forbears in reality himself to infect his mind with base superstition.

The terms *proprium uocamen* (ὄνομα κύριον) and *abuti* (καταχρᾶσθαι) do mark Lucretius' observations as rhetorical,[60] but questions connected with these terms belong to the category of concerns not untypical for philosophers. The subject of the standard meaning of terms was important for both Aristotle and Epicurus. Aristotle said that the quality of clarity, the only requirement of style Epicurus endorsed, is most easily achieved through the use of terms in their standard meaning.[61] Epicurus insisted on the importance of the first meaning (πρῶτον ἐννόημα) of a word,[62] and its status of a πρόληψις from which other, derived meanings are developed. Although in this passage Lucretius deviates from Epicurus' principles in order to make his poetic language a legitimate vehicle of the Epicurean doctrine, his request for distinction between a standard and non-standard meaning is essentially Epicurean.

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58 Cf. Schiesaro 1990, 74–83, who argues that Lucretius' use of the 'root-metaphor' of μακράνθρωπος does not contradict Epicurus' doctrine of inanimate world. The term 'root-metaphor' was coined by S.C. Pepper and introduced in Lucretian scholarship by Schrijvers 1978, 80.

59 E.g., 2.589ff.; 2.1153ff.; 5.795ff.

60 Cf. Clay 1996, 781–782 (= 1998, 162–163).

61 Τῶν δ' ὀνομάτων καὶ ῥημάτων σαφῆ (sc. λέξιν) μὲν ποιεῖ τὰ κύρια, *Rh.* 3.2, 1404b.

62 *Her.* 37–38.

In Book Three of *DRN* we find further evidence that Lucretius' use of figurative language shows awareness of rhetorical tradition, and that this awareness was already typical for Epicurus' thought. According to some Greek philosophers, Lucretius explains, mind and its power to perceive are a condition of the body—Greeks call this condition 'harmony':[63] as commentators indicate, the theory was associated with the name of Aristoxenus. After refuting the theory of soul as a condition and confirming the assumption that the soul is material and located in the body, and that the body does not experience sensation because of the alleged harmony, Lucretius advises his reader:

> *Quapropter quoniam est animi natura reperta*
> *atque animae quasi pars hominis, redde harmoniai*
> *nomen, ad organicos alto delatum Heliconi,*
> *siue aliunde ipsi porro traxere et in illam*
> *transtulerunt, proprio quae tum res nomine egebat.* (3.130–134)

> Therefore, since the nature of the mind and spirit has been found to be in some way a part of the man, give back the name of harmony, brought down to musicians from high Helicon, or perhaps the musicians themselves drew it from some other source and applied it to that which then lacked a name of its own.

Lucretius is aware that in opposition to an illuminating metaphor (like the one that he is using, *pars hominis*),[64] there is a sort of metaphor that proves to be opaque, like 'harmony'. He understands the reason why certain Greek philosophers had to use a metaphor here: the intended referent lacked its own name. This is why the term used in music was transferred to it. The verb *transfero* leaves little doubt about the rhetorical background of Lucretius' observations.[65] *Translatio* is a technical term and stands for Greek μεταφορά.[66] The idea that some metaphors are created due to the poverty of language is also commonplace in rhetorical theory.[67] But as we have seen in the previous example, Lucretius' methodological concern for the use of standard meanings is essentially Epicurean. Possibly, as E. Bignone argued, Lucretius'

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[63] 3.100.

[64] For Epicurus, *animus* is *literally* a part of the body (ἡ ψυχὴ σῶμά ἐστι, *Her.* 63). Later in the poem, Lucretius drops *quasi* (3.548). Perhaps in our passage *quasi* is simply due to contextual assimilation, since the concept *pars hominis* is confronted here with the metaphor *harmonia*. Cf. the scientifically inappropriate use of the adjective *aeternus* with *mundus* in 5.514.

[65] Cf. Bartalucci 1972, 74.

[66] Cf. *Rhet. Her.* 4.45; Quint. *Inst.* 8.6.4.

[67] E.g., Cic. *De or.* 3.155; Quint. *Inst.* 8.6.5.

organici reflect the disparaging term ὀϱγανικός that Epicurus had likely used to refer to Aristoxenus (as the author of a work entitled πεϱὶ αὐλῶν καὶ ὀϱγάνων).[68] The lines could thus closely follow Epicurus' critique.[69] One fragment from Epicurus' *On Nature* seems to contain a rebuke of those who, through their use of metaphor, transfer unknown things to other unknown things.[70] It is also interesting to note that Philodemus points out that every art, if deprived of metaphors, cannot utter a single sound.[71] As we shall see, Epicurus himself was not innocent of using metaphors either; but if we should judge from Lucretius, Epicurean metaphors were different than the opaque metaphors criticized in the previous passages.

Lucretius' remarks on the inappropriateness of the concept of harmony as an analogy for the mind reveal the principle that guides his own use of analogy and figurative expressions based on analogy.[72] His major concern is to provide his reader with correct, *informative* analogies. In intriguing accordance with one (tentatively reconstructed) precept of Philodemus, namely that a poet educated in philosophy should think about the origins of both figurative language and the language of philosophy,[73] Lucretius only uses carefully studied analogies, similes, and metaphors, which reveal *causal links* between various natural phenomena.

While for Aristoxenus soul was harmony, for Epicurus and Lucretius it is simply a part of the body. Since we cannot see or perceive the soul with our senses, we must admit that this conclusion is based on analogy. Lucretius expends considerable effort to make us see that the body analogy must be correct. Analogies between the disposition of the mind and the disposition of the body generate no less than 30 proofs for the mortality of the soul in Book Three.[74] In addition to this, the phenomenon of love in Book Four is explained by the same principle:

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[68] Bignone 1973, 2.123–125 (= 1936, 2.467–469).

[69] For an extant fragment of Epicurean critique of Aristoxenus see Phld. *Mus.* 54 Kemke.

[70] Μεταφοϱὰς… [ἃς ἐπῆγο]ν ἐπὶ τὰ ἄγνω[στ' α]ὐ[τῶν ἀπ'ἀγν]ώστων, Ep. *Nat.* 31.14 Arr.

[71] Πᾶσα τέχνη φων[ὴ]ν οὐ δύναται πϱο[ίεσ]θαι στεϱ[η]θεῖσα τῆς ἐκ τῶν μεταφοϱῶν εὐχϱησ[τίας], (*Rh.* 1.175 Sudhaus).

[72] Cf. his refutation of the concept of *fores* as a description of our senses (3.359–369).

[73] [Ἐπεσκέφθαι] φιλοσ[οφήσαν]τι ποιη[τῆι ἀν]αν[καῖον, π]ῶς καὶ π[όθ]εν [τ]ϱ[οπικὴ ἅμα λέξι]ς καὶ κ[α]τὰ [τί]ν[α τϱόπον ἵστ]αντ[αι] φυσικοὶ [λόγοι] (*Rh.* 1.180 Sudhaus).

[74] 3.447–829. For a detailed analysis of several arguments from this section, see West 1975.

since the mind is a body, love is *actually* a wound (of the soul), and produces the same physical reaction as wounds on our body:

namque omnes plerumque cadunt in uulnus, et illam
emicat in partem sanguis unde icimur ictu
et si comminus est, hostem ruber occupat umor.
sic igitur Veneris qui telis accipit ictus
siue puer membris mulieribus hunc iaculatur
seu mulier toto iactans e corpore amorem
unde feritur, eo tendit gestitque coire
et iacere umorem in corpus de corpore ductum;
namque uoluptatem praesagit muta cupido. (4.1049–1057)

For all generally fall towards a wound, and the blood jets out in the direction of the blow that has struck us, and if he is close by, the ruddy flood drenches the enemy. So, therefore, if one is wounded by the shafts of Venus, whether it be a boy with girlish limbs who launches the shaft at him, or a woman radiating love from her whole body, he tends to the source of the blow, and desires to unite and to cast the fluid from body to body; for his dumb desire presages delight.

This passage develops the image and the language of Hellenistic epigram into a complex simile, in which receiving a wound corresponds to falling in love, and bloodshed to ejaculation.[75] Lucretius simply took advantage of a popular literary motif to drive his point home.

In Book Two the fact that atoms are in motion while the sum total seems to be at rest is explained by two similes. First we take a look from afar at a flock of sheep:

nam saepe in colli tondentes pabula laeta
lanigerae reptant pecudes quo quamque uocantes
inuitant herbae gemmantes rore recenti,
et satiati agni ludunt blandeque coruscant;
omnia quae nobis longe confusa uidentur
et uelut in uiridi candor consistere colli. (2.317–322)

For often on a hill, cropping the rich pasture, woolly sheep go creeping whither the herbage all gemmed with fresh dew tempts and invites each, and full fed the lambs play and butt heads in fun; all which things are seen by us blurred together in the distance, as a kind of whiteness at rest on a green hill.

The notable *callida iunctura reptant pecudes* (sheep go creeping) very vividly depicts the movement blurred by distance.[76] Next follows a similar look

[75] Cf. West 1969, 94–96 and Brown 1987, 132–134.
[76] Cf. West 1969, 13–14.

from afar, but this time at legions maneuvering in distant plains. Both similes are clear examples of rhetorical *euidentia*,[77] but their primary function is to explain the cause of the phenomenon in question: we cannot observe the movement of the atoms because it is beyond the reach of our senses.[78]

As with the already mentioned 30 proofs for the mortality of the soul in Book Three show, Lucretius often supports his analogies by accumulating examples. In Book Two he explains the variety of the shapes of atoms through an analogy with the variety of shapes in nature, presented in a long list of examples including animals, crops, and shells.[79] In Book Four, explaining certain cases of sensory deception as the fault of our mind, and not of our senses, he assembles a great many examples which show that our mind often misinterprets sensory data.[80] In Book Five, he explains the possible causes for the motion of the stars,[81] for their courses,[82] and for the nature of the sun[83] and moon[84] with a number of examples which establish conceivable analogies: one of these analogies must be the correct explanation. In all the adduced sections Lucretius uses analogy to explain the *causes* of certain phenomena.

There are many other analogies (or concrete examples illustrating more abstract general principles) in *DRN* designed to reveal a causal link between the basic postulates of Epicureanism and the undeniable evidence of the senses. For example, Lucretius proves the existence of invisible bodies through a series of examples of such bodies in nature, including wind, scent, heat, cold, sound, vapor of water, particles of solid materials and living beings.[85] The procedure could be described as induction (*inductio* or ἐπαγωγή).[86] Its point, however, is not that invisible atoms must exist *by analogy* with some other invisible bodies; the point is that invisible bodies exist *because* all atoms are invisible: *corporibus caecis igitur natura gerit res* (therefore nature works by means of bodies unseen,

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[77] Cf. Schrijvers 1970, 227.

[78] Schiesaro 1990, 36–38, explains the passages as both Epicurean signs (σημεῖα) and analogies.

[79] 2.342–376.

[80] 4.379–468.

[81] 5.509–533.

[82] 5.614–649.

[83] 5.592 ff.

[84] 5.705 ff.

[85] 1.265–328.

[86] Cic. *Top.* 42.

1.328).[87] In this whole section the most elaborate example is that of wind, the material nature of which is proven by a simile comparing it to water.[88] As D.A. West has shown, the passages devoted to wind and water share multiple verbal and syntactical correspondences: *fluunt, flamina*, and *flumen* (280 and 290–291); *uenti uis* and *aquai uim* (271 and 285–286); *turbine* and *turbidus* (273, 279, 294 and 286); *rapido* and *rapidi* (273 and 294); *ruit* and *ruunt* (272 and 292); *subito* and *subitam* (279 and 286).[89] The syntactic symmetry of the two passages and the common vocabulary employed to describe two phenomena reinforce the link between the concepts of wind and water, and thus add more weight to the argument that wind is corporeal. Alliterations such as *uenti uis uerberat* (271) enhance the visibility of the invisible body of wind.

Finally, as A. Schiesaro has shown, the analogies in *DRN* are used both on the synchronic and diachronic axis. Thus Lucretius' account of the development of civilization contains a number of analogies that explain the events of the past by referring to our present experiences.[90]

Our discussion confirms Cicero's observation that the *locus ex similitudine* provides arguments common in philosophical dispute. We have seen that a great number of such arguments in *DRN* go back to the traditional analogies that occur in various philosophical systems. We have also seen that, along with his use of traditional arguments based on analogy, Lucretius develops a systematic and argumentative use of the poetic forms of analogy, simile and metaphor.[91] Aiming at a chosen point of correspondence between the two elements to be compared, Lucretian similes and metaphors show that the correspondence can be explained correctly only within the Epicurean system of causes and effects. They do not provide conclusive proofs in themselves, but only when combined with the laws of Epicurean physics. Lucretius' studied use of informative and enlightening similes and metaphors reveals his acute awareness of their cognitive value. This awareness cannot be referred to Greco-Roman rhetorical doctrine of the ornamental role of the features of style. It is rather affiliated to the philosophical tradition, represented above all by Aristotle, who observed: "to understand easily is naturally pleasant to everyone… and metaphor makes this possible

[87] Cf. Rumpf 2003, 103 n. 26 and 230–231.

[88] 1.271–294.

[89] West 1970, 273–274. Cf. Friedländer 1941, 18; Schiesaro 1990, 22–24; Clay 1996, 784–785 (= 1998, 165); Schindler 2000, 78–83.

[90] Schiesaro 1990, 91–168.

[91] Cf. West 1969; Schindler 2000, 148–149.

most frequently" (τὸ γὰρ μανθάνειν ῥᾳδίως ἡδὺ φύσει πᾶσιν ἐστί… ἡ δὲ μεταφορὰ ποιεῖ τοῦτο μάλιστα).[92] Aristotle also advised that "examples and illustrations should be introduced for the purpose of clarity" (εἰς δὲ σαφήνειαν παραδείγματα καὶ παραβολὰς οἰστηέον).[93] Similarly, Philodemus discussed metaphor in connection with conciseness and clarity ([λέγου]σι δέ τινες μεταφορὰς [λαμ]βά[νε]σθαι καὶ συντομ[ίας] χάριν καὶ σαφηνείας…).[94] Occasional rhetorical precepts of similar kind, such as *sumetur et apertius dicendi causa simile* (analogy will be also used for the sake of greater clarity) of *Rhetorica ad Herennium*,[95] and Quintilian's observation that similes were invented *ad inferendam rebus lucem* (for the purpose of shedding light on matter),[96] reflect the philosophical tradition.

Arguments from Contradiction

Cicero in his *Topica* introduced the arguments from sequence, antecedents, and contradiction as *locus dialectorum*. These arguments belong to the province of logicians because they are based on a necessary connection or a necessary contradiction.[97] In other words, they are conclusive, since they do not need further proof or demonstration. The type is a single heading with multiple subdivisions, comprising the cases of hypothetical and disjunctive syllogisms, as developed by Chrysippus.[98] Cicero illustrated the first three Chrysippan syllogisms, claiming that they represent three different treatments of the same type of argument. His examples are particular arguments, which will be presented here schematically for the sake of convenience:

1. If A is true, then B is true; A is true; therefore B is true.
2. If A is true, then B is true; not-B is true; therefore not-A is true.
3. Not (A and B) is true; A is true; therefore not-B is true.

The third type, contradiction, led Cicero to the discussion of its rhetorical form, ἐνθύμημα (effective conclusion foiled in contraries). Just as Homer is the poet *par excellence*, explained Cicero, the argument from

92 *Rh.* 3.10, 1410 b.
93 *Top.* 8.1, 157a.
94 *Rh.* 1.176 Sudhaus.
95 4.60.
96 *Inst.* 8.3.72.
97 53ff.
98 S.E. *M.* 8.224–226; D.L. 7.80–81.

contraries is an ἐνθύμημα *par excellence*, since it represents its most pointed form (*sententia… acutissima*). The example he gave is the exclamation '*hoc metuere, alterum non in metu ponere!*', which expresses in the most concise way the contradictory absence of a fear of a (presumably more dangerous) thing in the light of the presence of a fear of another (presumably less dangerous) thing. Although the conclusion derived from contradictory statements is relevant for discussing legal problems, continued Cicero, it is more the province of philosophers and orators. Then he completed the list of Stoic syllogisms with a group of schematically represented arguments, using demonstrative pronouns in the place of propositions:

4. Either this or that; this; therefore not that.
5. Either this or that; not this; therefore that.
6. Not both this and that; this; therefore not that.
7. Not both this and that; not this; therefore that.

These schematic representations provide further classification of the cases of contradiction.

Cicero presented the group in the form developed in the Stoic school. The argument from contradiction, however, had had a long history in philosophical tradition before it reached its place in Aristotelian and Stoic logic. In his study *Polarity and Analogy*, G.E.R. Lloyd included forms of contradiction under the heading of polarity, one of his two main types of philosophical argument.[99] According to Lloyd, who traced the development of arguments from polarity from the pre-Socratics to Plato and Aristotle, their basic forms are: a choice between two alternatives (e.g., between 'what is' and 'what is not' in Parmenides); confirmation of a thesis by refuting its opposite (e.g., Zeno's refutation of 'the many' in order to confirm Parmenides' 'one'); showing that a thesis has mutually incompatible consequences (e.g., Zeno's 'the many' is both limited and unlimited); refuting a thesis by refuting the propositions that must be true if the thesis is true (e.g., the arguments Gorgias developed to prove that nothing exists, or that Helen was innocent).[100]

Epicurean arguments from contradiction are generated by the method of counter witnessing (ἀντιμαρτύρησις). This method stems from Epicurus' general rule that explanations regarding invisible phenomena

[99] Lloyd 1966, 15–171.
[100] Lloyd 1966, 125–126.

are valid only if they are not contradicted by the evidence provided by the senses—the rule is only a mirror image of the principal rule according to which explanations must be confirmed by the evidence of the senses. In accordance with this principle, a thesis may be confirmed indirectly by showing that its contradictory entails consequences that do not correspond to our experience.[101] Thus the first two principles introduced in the *Letter to Herodotus*, namely that nothing is created out of nothing, and that nothing perishes into nothing, are immediately followed by the contradictories that would go against our experience: if something could be created out of nothing, then everything would be created from everything, with no need for seeds; also, if vanishing things could perish into nothing, then everything would have perished by now, since that into which it was dissolved does not exist.[102]

At the beginning of the argumentative section of Book One, Lucretius presents the same two arguments in amplified form.[103] First, he proves the thesis that nothing is created out of nothing by showing the consequences of its contrary, namely that everything could be created from everything, with no need for seed. A multitude of impossible consequences is arranged into groups according to the principle of natural limits imposed on procreation, namely, the limits of certain species, certain season, certain time needed for growth, necessary nutrition, certain size, and the need for cultivation. The first section, for example, shows that if there were no limiting characteristics of species, the water would produce men, the land fish, and the birds would come out straight from the sky:

> *e mare primum homines, e terra posset oriri*
> *squamigerum genus et uolucres erumpere caelo* (1.161–162)
>
> Firstly, men could arise from the sea, from the earth scaly tribes, and birds could hatch from the sky.

These carefully chosen impossibilities (ἀδύνατα) associate the rejected principle with a series of proverbial impossibilities.[104] In some of the fol-

[101] Sextus Empiricus explains counterwitnessing using as example the Stoic belief that there is no void, which is counterwitnessed by the phenomenon of movement (*M.* 8.214).

[102] 38–39.

[103] 1.159 ff.

[104] For proverb as the original form of ἀδύνατον (the term is modern) see Rowe 1965, and Fogelmark 1975. Rhetorical treatises, as Rowe shows, classify proverbs as tropes. For the view that Lucretius draws on conventional ἀδύνατα, cf. the discussion and examples in Rankin 1968.

lowing sections the argument is neatly compressed in similar ἀδύνατα: if no time were needed for growth, small children would suddenly turn into young men, and whole trees would instantly pop out of the earth; if no size limit were imposed on growth, some men would become giants, performing mythological tasks. In other sections, examples from our experience confirm the existence of the limits in creation: roses grow in spring, grain in summer, and grapes in fall; rain is needed by fruit, and food by living beings. The end of each section is marked by a form of reiteration of the principle that nothing can arise out of nothing.

The thesis that nothing is resolved into nothing is also confirmed *via* the impossible consequences of its contradictory.[105] First, Lucretius argues, if annihilation were complete, things would suddenly disappear in front of our eyes: *ex oculis res quaeque repente erepta periret.* The collocation of *repente* and *erepta*, producing an elision and successive reduction of *repent-* to *–rept-*, acoustically parallels the logical point. Next, creation could not take place, since no matter would be available and no nourishment possible. The latter point is amplified by division of the sum of things into three separate realms, namely earth, sea and aether.[106] The central rhetorical question is echoed in each realm, and the decreasing length of three cola increases the speed of reading until we reach the concluding part of the argument:[107]

> *unde animale genus generatim in lumina uitae*
> *reducit Venus, aut reductum daedala tellus*
> *unde alit atque auget generatim pabula praebens?*
> *unde mare ingenuei fontes externaque longe*
> *flumina suppeditant? unde aether sidera pascit?*
> *omnia enim debet, mortali corpore quae sunt,*
> *infinita aetas consumpse anteacta diesque.*
> …
> *haud igitur possunt ad nilum quaeque reuerti.* (1.227–237)

> Whence does Venus restore living creatures to the light of life each after its kind, or, when they are restored, whence does the wonder-working earth nourish them and make them grow, providing food for each after its kind? Whence is the sea supplied by the springs within it, and by the rivers without, flowing from afar? Whence does the ether nourish the stars? For all things that are of perishable body must have been

[105] 1.215ff.
[106] Schematic divisions of the world into its four elements (earth, water, air, and fire), or three realms (earth, sea and sky) are frequent in Lucretius (cf. Hardie 1986, 168–172). Epicurus also used these commonplace divisions (e.g., *Nat.* 29.22ff. Arr.).
[107] Cf. West 1969, 121–122.

> consumed by infinite time and ages past. … Therefore no thing can return to nothing.

Next, if the perishing were complete, just a touch could be a cause of destruction. Here the dominant image of interwoven matter calls the experience of our senses to witness the impossibility of tearing and destruction by a single touch:

> *tactus enim leti satis esse causa profecto,*
> *quippe ubi nulla forent aeterno corpore, quorum*
> contextum *uis debere dissoluere quaeque.*
> *at nunc, inter se quia* nexus *principiorum*
> *dissimiles constant aeternaque materies est*
> *incolumi remanent res corpore, dum satis acris*
> *uis obeat pro* textura *cuiusque reperta.*
> *haud igitur redit ad nilum res ulla…* (1.241–247)

> For just a touch would be cause enough for destruction, inasmuch as there would be no particles of everlasting body, whose *contexture* a special force would be needed to dissolve. But as it is, since the *bonds* which combine the elements are different, and their matter is everlasting, things abide with body intact until a force meet them that is found vigorous enough to affect the *texture* of each. Therefore no single thing returns to nothing…

Finally, complete perishing would make the cycle of death and birth impossible. This point is conveyed by an elaborate amplification,[108] which guides us with astonishing speed and clarity through a cycle of birth and growth, from the image of rain nourishing the earth to the images of flourishing cities, woods, and herds:[109]

> *postremo pereunt imbres, ubi eos pater aether*
> *in gremium matris terrai praecipitauit;*
> *at nitidae surgunt fruges ramique uirescunt*
> *arboribus, crescunt ipsae fetuque grauantur;*
> *hinc alitur porro nostrum genus atque ferarum;*
> *hinc laetas urbes pueris florere uidemus*
> *frondiferasque nouis auibus canere undique siluas;*
> *hinc fessae pecudes pingui per pabula laeta*
> *corpora deponunt, et candens lacteus umor*
> *uberibus manat distentis; hinc noua proles*
> *artubus infirmis teneras lasciua per herbas*
> *ludit lacte mero mentes perculsa nouellas.*
> *haud igitur penitus pereunt quaecumque uidentur…* (1.250–262)

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108 Cf. Schrijvers 1970, 226–227.

109 See the discussion of the imagery in this passage in West 1969, 4–7.

> Lastly, the raindrops pass away, when father Ether has cast them into the lap of mother Earth; but bright crops arise, the branches upon the trees grow green, the trees also grow and become heavy with fruit; hence comes nourishment again for our kind and for the wild beasts; hence we behold happy cities blooming with children and leafy woods all one song with the young birds; hence flocks and herds weary with their fat, lay their bodies about the rich pastures, and the white milky stream flows from their swollen udders; hence the young ones gambol in merry play over the delicate grass on their weakly limbs, their tender hearts intoxicated with neat milk. Therefore no visible object utterly passes away…

Once again, the thesis is reiterated at the end of each section, and the underlying logical procedure is underscored by each time concluding *igitur*.

The arguments from contradiction, often amplified, play a particularly important role in the first two books, in which Lucretius lays out the foundation of Epicurean physics. For example, the existence of void is proven through the impossibility of the consequences of its non-existence.[110] If there were no void, there would be no movement; but as we see, things are moving throughout the seas, lands, and heaven:

> *at nunc per maria ac terras sublimaque caeli*
> *multa modis multis uaria ratione moueri*
> *cernimus ante oculos…* (1.340–342)

> But as it is, we discern before our eyes, throughout seas and lands and the heights of heaven many things moving in many ways and various manners…

Next, without void nothing would be able to penetrate solid bodies; but we see that water penetrates rocks, that food is distributed in animals and trees, sound passes through walls, and cold oozes all the way to the bones—the same image is echoed in four realms:

> *in saxis ac speluncis permanat aquarum*
> *liquidus umor et uberibus flent omnia guttis*;
> *dissipat in corpus sese cibus omne animantum*;
> *crescunt arbusta et fetus in tempore fundunt*,
> *quod cibus in totas usque ab radicibus imis*
> *per truncos ac in ramos diffunditur omnis*;
> *inter saepta meant uoces et clausa domorum*
> *transuolitant; rigidum permanat frigus ad ossa.* (1.348–355)

[110] 1.329ff. Cf. Ep. *Her.* 40 and Phld. *Sign.* VIII 26-IX 3.

> In rocks and caves the liquid moisture of waters oozes through, and the whole place weeps with plenteous drops. Food is dispersed through all the body in living creatures. Trees grow and at their time put forth their fruits, because their food is distributed all over them from the lowest roots through trunks and through branches. Sounds pass through walls, and fly through closed houses, stiffening cold permeates to the bones.

Finally, if there were no void, things of equal size would have equal weight, and a ball of wool would be equal in weight to a lead ball:

> *nam si tantundemst in lanae glomere quantum*
> *corporis in plumbo est, tantundem pendere par est* (1.360–361)
>
> For if there is as much body in a ball of wool as in lead, it is fitting that they should both weight the same.

Vivid illustrations of each consequence are followed by a repetition of the thesis. At the end of the third argument, the reiterated conclusion is formulated with *igitur*. Besides the amplification through the division of the world into sea, land, and air, we should note again the choice of examples derived from popular proverbs, such as water penetrating rocks,[111] and the paradigmatic contrast between wool and lead.[112]

In Book Two, having explained that the same atoms produce a variety of different animals, Lucretius adds that not every combination of atoms is possible.[113] If the contrary were the case, all sorts of monsters, such as Centaurs, Sirens, Scyllas, and Chimaeras, would be seen around us:

> … *nam uolgo fieri portenta uideres,*
> *semiferas hominum species existere, et altos*
> *interdum ramos egigni corpore uiuo,*
> *multaque conecti terrestria membra marinis,*
> *tum flammam taetro spirantis ore Chimaeras*
> *pascere naturam per terras omniparentis.* (2.701–706)
>
> For then you would commonly see monstrosities come into being, shapes of men arising that would be half beasts, lofty branches at times sprouting from living body, parts of terrestrial creatures often conjoined with creatures of the sea, Chimaeras again breathing flame from noisome throats, pastured by nature over the lands that produce everything.

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111 Repeated in another form at 4.1286–1287. Cf. *longa dies molli saxa peredit aqua* (Tib. 1.4.18); *aqua tendit rumpere plumbum* (Hor. *Epist.* 1.10.20).

112 For the weight of wool in comparisons cf. *efficiam leuiorem pondere lanae* | *Tarbigilum tumidum* (Claud. 20.398–399); lead is a heavy material *par excellence*, and Lucretius relies on this common notion elsewhere (e.g., 5.1242).

113 2.700 ff.

But we see that none of these exists, concludes Lucretius, restating the thesis that things are created under fixed laws.

Proving that color is an attribute of compounds, and not of atoms, Lucretius argues that if this were not true, each representative of a species would have a different color.[114] The impossibility is illustrated by a pair of proverbial ἀδύνατα, white crows[115] and black swans:

> *conueniebat enim coruos quoque saepe uolantis*
> *ex albis album pinnis iactare colorem*
> *et nigros fieri nigro de semine cycnos*
> *aut alio quouis uno uarioque colore.* (2.822–825)
>
> For it were fitting that crows also as they fly should often throw off a white color from white feathers, and swans be made black from black seed, or indeed of any other color single or variegated.

The argument that atoms do not have sensations is also based on the absurd consequences of its contrary.[116] If atoms had feelings, Lucretius argues, they would be able to laugh, weep, discuss at length the structure of things, and even their own first-beginnings:

> *scilicet et risu tremulo concussa cachinnant*
> *et lacrimis spargunt rorantibus ora genasque,*
> *multaque de rerum mixtura dicere callent,*
> *et sibi proporro quae sint primordia quaerunt.* (2.976–979)
>
> Doubtless they shake trembling with laughter, they guffaw, they bedew face and cheeks with tears, they can discourse wisely at large on the composition of things, they go so far as to examine what their own first-beginnings are.

This comic image first occurred in the section of Book One, in which Lucretius refuted the doctrine of Anaxagoras.[117]

Arguments from contradiction gradually become less crucial and prominent in the following books,[118] but when they occur, they are expressed in similar ways. In Book Three, the argument against the assumption that souls wait for copulation and the birth of animate beings in order to acquire bodies is phrased in a telling way:

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[114] 2.817ff.

[115] Cf. λευκοὶ κόρακες in *AP* 11.417 and 436.

[116] 2.973ff.

[117] 1.919–920.

[118] Vidale 2000 provides an exhaustive list, analyzing the structure of the argument in 11 sections from Book One, 8 from Book Two, 12 from Book Three, 1 from Book Four, 6 from Book Five, and none from Book Six.

Denique conubia ad Veneris partusque ferarum
esse animas praesto deridiculum esse uidetur,
expectare immortalis mortalia membra
innumero numero certareque praeproperanter
inter se quae prima potissimaque insinuetur. (3.776–780)

Again, to suppose that spirits stand ready for the amours and the parturition of wild beasts is plainly too ridiculous—immortal spirits awaiting mortal frames in number numberless, and struggling together in hot haste which first and foremost shall creep in.

The oxymoronic collocation of *immortalis* and *mortalia* and *innumero* and *numero* enhances the paradoxical nature of the proposition. The argument is concluded with a comic image of souls entering the bodies in a regulated order. The following argument that mind's natural place is within the body opens with yet another series of ἀδύνατα:

denique in aethere non arbor, non aequore in alto
nubes esse queunt nec pisces uiuere in aruis
nec cruor in lignis neque sucus in saxis inesse.[119] (3.784–786)

Again a tree cannot grow in the sky, nor clouds be in the deep sea, nor fish live in the fields, nor can blood be in sticks nor saps in rocks.

The proverbial nature of some of these impossibilities is well attested.[120]

These examples provide sufficient illustration of rhetorical amplification with which Lucretius enhanced the transparency of his arguments from contradiction. The most prominent techniques include *adynaton* and proverbs, oxymoron, amplification (e.g., through division of the world in three realms, or the species that inhabit them), rhetorical question, and illustrative word play. We have seen that in certain cases Lucretius' arguments from contradiction can be traced back to those of Epicurus. But our evidence for the latter comes from the *Letter to Herodotus*, which is an epitome; we thus do not know how the more elaborate treatment of these arguments in *On Nature* might have looked. Judging from the fact that Epicurus wrote philosophical prose, it is quite safe to assume that certain techniques of amplification, such as *euidentia* and illustrative word order, must be regarded as Lucretius'

[119] Closely paralleled by 5.128–130.

[120] For fish on land cf. *qui uariare cupit rem prodigialiter unam, | delphinum siluis appingit* (Hor. *Ars* 29–30), and Ovid's *euidentia* of the bottom of the sea after the diluvium, with details such as … *modo qua graciles gramen carpsere capellae | nunc ibi deformes ponunt sua corpora phocae* (*Met.* 1.299–300); … *siluasque tenent delphines et altis | incursant ramis*… (*Met.* 1.302–303); for water coming out of stone cf. *tu aquam a pumici nunc postulas* (Plaut. *Persa* 41).

own, poetic rendering of the argument. Some other techniques, such as references to proverbs, division of the world into three realms or the species that inhabit them,[121] and rhetorical questions, are attested in Epicurus' works. For example, we have already discussed Epicurus' allusions to proverbial and poetic sayings, by which he without a doubt wanted to present non-Epicurean material as essentially Epicurean.[122] Such allusions were also standard features of popular philosophical discourse;[123] to think that Epicurus' philosophical prose did not contain elements of such discourse means to ignore our evidence.

Cicero, as we saw earlier, treated the argument from contradiction within the frame of Stoic logic, but observed that the type of argument is most frequently used by philosophers and orators. W. Kullmann argued that in Lucretius, the origin of this type of argument should not be sought in rhetorical procedure, but in Epicurean epistemology and Epicurean dialogue with Stoic logic.[124] Cicero's treatment of the *locus*, supported by illustrations, shows that the type of argument was equally applicable within the realm of rhetoric. The proposition that Lucretius' use of the argument from contradiction reflects the dialogue of the contemporary Epicureans with the Stoics is a part of the greater problem of Lucretius' awareness of the issues of contemporary philosophical discussion. Given the absence of a number of important works of Epicurus, Kullmann's study illuminated the general connection between Epicurean theory and Lucretius' practice, but did not provide conclusive proofs that the practice should be connected to Philodemus' reaction against the Stoics, rather than to the arguments of Epicurus.

Kullmann did not fail to observe that in Lucretius' *presentation* of the arguments from contradiction "the poetic element is strong".[125] G. Milanese, who followed the approach of Kullmann, stressed the fact that the poetic elements are not resting areas, but functional components of a highly organized whole.[126] Finally, N. Vidale pointed out that Lucretius' treatment of the argument from contradiction reveals his search for a balanced variation by which tedious repetition of the same

[121] This technique was also used by Empedocles (e.g., 25.39–41 and 25.64–66 Inwood).
[122] Above, pp. 45–46.
[123] Cf. Wallach 1975, 63–64.
[124] Kullmann 1980, 124; cf. Milanese 1987, 77–78.
[125] Kullmann 1980, 123.
[126] Milanese 1987, 77.

structure would be avoided and clarity preserved.[127] Thus the results of the preceding discussion seem to be corroborated by a wide scholarly consensus that in Lucretius' treatment of the argument from contradiction the elements of style can hardly be distinguished from the logical tissue of argumentation.

As we pointed out, Lucretius' use of the argument from contradiction is based on the Epicurean κανών.[128] Our analysis of the use of this type of argument in *DRN* confirms our initial claim that, despite the fact that they were presented as tools for finding truth, not probability, upon a closer look the very rules of κανών turn out to be the rules that form rhetorical arguments. Finally, Lucretius' presentation of arguments from contradiction is marked by the same stamp as his treatment of analogy and its poetic forms, simile and metaphor: all these arguments actually reunify scientific and pre-scientific, i.e., poetic or rhetorical forms of argumentation.

Arguments from Etymology[129]

Cicero's illustration of this type of argument is a case in which the interpretation of a word's etymology influences the interpretation of the law. The enemy did not accept a general whom the senate had sent as a captive to punish him for a shameful treaty he made; the restoration of the general's citizenship upon his return to Rome, says Cicero, may be argued on the basis of the right of *postliminium*, the word being understood as a compound (*post* and *limen*), and the recovery of the right justified by the literal meaning of the word, i.e., the return within the threshold of Rome.[130] Despite the fact that Cicero placed it in a separate group,[131] the argument from conjugates (*coniugatio* or συζυγία) relies on a similar connection—the fact is underscored by the order of Cicero's treatment, in which *coniugatio* immediately follows *notatio*. In the case of a suit concerning the keeping of water off a neighbor's land, the family relationship between words such as *pluuia* and *pluere* may be used

[127] Vidale 2000, 13–14 and 109.
[128] According to Cotta in Cicero's *De natura deorum* (1.69), the type of argument is typical of the Epicurean school.
[129] The term refers here to the ancient concept of etymology, which included phenomena such as puns, alliteration, assonace, and onomatopoeia.
[130] *Top*. 35–37.
[131] See above, p. 90.

to define the sort of water meant by the phrase used in the law, *aqua pluuia*.[132]

Although Cicero does not emphasize this in his *Topica*, the same type of argument may also be employed in philosophical debate. Cicero's own philosophical works offer a number of instances of this practice. For example, at the very beginning of *De diuinatione*, he praises *diuinatio* as a faculty by which human nature can come closest to the power of the gods. Here as in many other things, continues Cicero, the Romans surpass the Greeks: the etymology of Latin word *diuinatio* (*a diuis*) confirms the divine nature of the faculty, while the etymology of the term used in Greek connects the faculty with frenzy (μαντική from μανική).[133]

Apparently, the preceding example illustrates an application of etymology that is different from the sort of etymological play we call a pun, common in both poetry and prose even from the earliest times. Etymological explanations in the preceding examples are *explicit*, while puns contain *implicit*[134] (and often playful) etymologies. Implicit etymologies are frequent in Cicero's speeches. In his *Verrines*, for example, he does not miss an opportunity to use a *double entendre* on the name *Verres* (also 'male pig').[135] The play is certainly humorous and reminds one of the treatment of names in ancient comedy. Nevertheless, Aristotle regarded such plays in oratory as arguments from personal names.[136] A pun can be used to convey a serious message, no less serious than an entire world-view. One only needs to recall the two-word summary of the Orphic teaching, σῶμα-σῆμα.[137]

What Cicero shows in his *Topica*, then, is only an explicit argumentative use of etymology; but, by the same token, implicit etymologies will also have an argumentative potential. In a legal case and in poetry alike etymology is used as an argument, or, in other words, a way of securing the adherence of the audience. Although poetic, implicit etymologies differ in the degree of precision from the scientific, explicit arguments from etymology that Cicero describes in *Topica*, the nature of the two types is nevertheless the same. No other proof for this is needed

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132 *Top*. 38.

133 *Diu*. 1.1. Cf. Pl. *Phdr*. 244b–c and *Ti*. 71e.

134 I.e., unmarked by explicit etymological markers, such as words *uere* or *nomen*/ ὄνομα (cf. Maltby 1993, 267–270 and Cairns 1996, 29–31).

135 See the discussion of particular examples in Holst 1925, 48–50.

136 Ἀπὸ τοῦ ὀνόματος, *Rh*. 2.23.29 1400b.

137 For etymological speculation among the Orphics and Pythagoreans see Skutsch 1959 (= 1968, 151–156).

than the fact that the beginnings of scientific etymology in Rome were rooted in early Latin poetry. Varro's myriad of examples from authors such as Naevius, Ennius, Plautus, Terence, Pacuvius, and Accius shows that poetry was the gold-mine of Latin etymology.[138]

Lucretius' use of etymologies should be interpreted in the light of the epic poetic tradition, in which an etymological way of thinking was exploited from the earliest times—a practice that became even more intensive in later periods.[139] In the *Odyssey*, for example, Autolycus names his grandson Ὀδυσεύς because he himself was hateful (ὀδυσσάμενος) to many.[140] At a place that occurs only a bit later in the poem, Penelope uses etymology to explain the difference between the dreams that pass through the gate of horn and those that pass through the gate of ivory. Those that pass through carved ivory (διὰ πριστοῦ ἐλέφαντος) are deceitful (ἐλεφαίρονται), while those that pass through polished horn (διὰ ξεστῶν κεράων) accomplish (κραίνουσι) the truth.[141] Hellenistic poetry, in its quest for aetiologies, provided a great number of further examples of etymological plays, and the work of Lucretius' Roman epic predecessor Ennius is no exception to this trend.[142] The general assumption that underlies these poetic etymological connections is that the names explain the origin or nature of the things they refer to. This assumption became a scientific theory in the time of the first Sophists, as we can see from the position of Plato's Cratylus, and later continued to live in the Stoic teaching, supporting the Stoic theory of the all-pervading λόγος.

In his *excursus* on *Magna Mater* in Book Two, Lucretius implicitly rejects such etymologizing as a non-philosophical tool, i.e., as a part of an allegorical defense of myth. In his *excursus*, the traditional attributes and the elements of the cult of *Magna Mater* are glossed by simultaneous explanations of their symbolism. Some of these explanations rely on etymology.[143] Different peoples give the goddess as guard *Phrygias cateruas*, because they say the crops (*fruges*) were first grown in *Phrygia*, and then spread elsewhere.[144] The young men playing and dancing

138 *Ling.* Books 5–7.

139 For examples starting from Homer, Hesiod, and Homeric hymns and illustrating the more intensive etymologising in Alexandrian poetry see O'Hara 1996, 7–42.

140 19.405–412. Cf. Maltby 1993, 259; O'Hara 1996, 9.

141 19.562–567. Cf. Maltby 1993, 260; O'Hara 1996, 11.

142 See the examples in Snyder 1980, 69–72.

143 Cf. Friedländer 1941, 21 and West 1969, 106–109.

144 2.611–613.

in the procession, whom the Greeks call *Curetes* (from Greek κοῦροι, i.e., *pueri*), represent the *Curetes* who guarded Zeus as a child on Mount Dicte, *pueri circum puerum*.[145] The young men symbolize an armed youth wishing to defend their land, *praesidioque parent decorique parentibus esse*.[146] The second element in the paronomasia *parent-parentibus* strengthens the etymology of Curetes. But in his conclusion to the *excursus*, Lucretius denies any truth to the whole account and the accompanying explanations. He admits that these explanations are well told and exceptional, but they are not put into the service of truth. The analogy *terra-mater* should not be applied to such an extent as to indicate that earth has other anthropomorphic characteristics, such as emotions and sensation. This is a path that leads to *superstitio*, the frame of mind that Lucretius wishes to expel from human life.

However, as Lucretius already showed in the part of the poem preceding the *Magna Mater excursus*, the use of etymologies is appropriate when it supports a true philosophical account, and when the etymologies illuminate correct didactic analogies. The following examples will show how the most important concepts and scientific explanations in Lucretius' account are supported by such illuminating etymologies.

The first instance of the occurrence of the word *natura* in the text seems to be calculated to bring to surface the etymological sense of the word, namely 'birth':[147]

> *Quae quoniam rerum* naturam *sola gubernas,*
> *nec sine te quicquam in luminis oras*
> *exoritur neque fit laetum neque amabile quicquam,*
> *te sociam studeo scribendis uersibus esse*
> *quos ego* de rerum natura *pangere conor…* (1.21–25)

> Since therefore you alone govern the *nature (birth)* of things, since without you nothing comes forth into the shining borders of light, nothing joyous and lovely is made, you I crave as partner in writing the verses, which I essay to fashion *on the nature of things…*

This address to Venus follows the initial description of the power of the goddess to bring about procreation; only by interpreting *natura* (21) as 'birth' can one make sense of the causal link, indicated by *quoniam*, between the opening lines and the poet's wish to have Venus as an ally

[145] 2.629–635.
[146] 2.643.
[147] Cf. Boyancé 1963, 68–69; Clay 1969, 33–36 (= 1998, 123–126, + the introductory note) and 1983, 85–87; Brown *ad* 21; Sedley 1998, 25–26; Kennedy 2000, 218–219.

at the beginning of his enterprise, that is, the birth of his poem.[148] It is inevitable that the meaning of *natura* in the title phrase *de rerum natura*, which Lucretius uses only a few of lines later (25), will be influenced by the context. The etymological sense makes the word philosophically pregnant. As the reader familiar with the basic doctrines of Greek philosophy already knows, and as all the readers of Lucretius will soon discover, birth implies mortality.

In Book One, announcing his account of the first-beginnings, Lucretius introduces the terms he will use for *rerum primordia*:

> *quae nos materiem et genitalia corpora rebus*
> *reddunda in ratione uocare et semina rerum*
> *appellare suemus…* (1.58–60)

> Which, in discussing philosophy, we are accustomed to call matter, and bodies that generate things, and seeds of things…

While the latter two terms directly suggest a conceptual analogy with biological creation, the term *materies* does so through implicit etymological link *mater-materies*.[149] The etymology establishes an analogy between mother and matter as creative and nourishing elements.[150] In the first argument from contraries, examining the possibility that things can be produced without a fixed seed, Lucretius uses the etymological link in a more conspicuous way:

> *quippe ubi non essent genitalia corpora cuique*
> *qui posset* mater *rebus consistere certa?*
> *at nunc seminibus quia certis quaeque creantur,*
> *inde enascitur atque oras in luminis exit*
> materies *ubi inest cuiusque et corpora prima*; (1.167–171)

> Seeing that there would be no bodies apt to generate each kind, how could there be a constant unchanging mother for things? But as it is, because every kind is produced from fixed seeds, the source of everything that is born and comes forth into the borders of light is that in which is the material of it and its first bodies.

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[148] This use of *natura* in the meaning 'birth' corresponds to Empedocles' use of the word φύσις in that meaning in frg. 12 Wright (B 8 DK), lines 1 and 4. For discussion see Wright *ad loc.*, and Traglia 1952, 142–143. Plutarch *Moral.* 1111f. quotes the Empedoclean lines as support adduced by Colotes for the Epicurean (and obviously much older) view that what we call birth and death is only combination and dissolution. Epicurus' φύσιν ἔχειν for πεφυκέναι (*Her.* 39) shows that the master also used the word φύσις in its etymological sense.

[149] The etymology is confirmed by Isidorus (*Orig.* 9.5.6 and 19.19.4). Cf. Leonard-Smith *ad* 1.168; Snyder 1980, 39; Brown *ad* 1.170–171.

[150] Cf. Schrijvers 1970, 221.

Interchangeability of *mater* and *materies* is also clear in the concluding rejection of the possibility that things can grow in no time at all:

> *ut noscere possis*
> *quidque sua de materie grandescere alique.* (1.190–191)

> So that you may infer that every kind grows and is nourished from its own proper material.

The analogy suggested by the etymological link is consistently preserved in the phrases such as *genitalis… materies*[151] and *materies rerum*.[152]

The etymology *mater* from *materies* does not foster *superstitio*, since its role is only to facilitate understanding of the difficult concept of atomic creation through an analogy with the familiar concept of birth. The very idea of *superstitio*, as well as the closely associated idea of *religio*, is explained in terms of the respective etymologies of the words. The description of Epicurus' triumph over religion in Book One starts in the following way:

> *Humana ante oculos foede cum uita iaceret*
> *in terris oppressa graui sub religione,*
> *quae caput a caeli regionibus ostendebat*
> *horribili* super *aspectu mortalibus* instans,
> *primum Graius homo…* (1.62–66)

> When man's life lay for all to see foully groveling upon the ground, crushed beneath the weight of Superstition, which displayed her head from the regions of heaven lowering over mortals with horrible aspect, a man of Greece was the first…

The first two lines present a vivid image of humans lying on the ground (Maltby points out the possibility of a play with the etymology *homo* from *humus*, particularly in light of the mirroring positions of *humana* and *in terris*),[153] pressed down by the burden of religion. In the following two lines, religion is personified, its head sticking from the heavens and terrifying men from above. The phrase *super… instans* is calculated to bring to mind and at the same time explain the essence of the word *superstitio*,[154] establishing a natural connection between *superstitio* and *religio*. The idea of standing above is crucial in this passage, which ends with the reversal effected by Epicurus' victory:

[151] 1.632–633.
[152] 1.635; 1.705.
[153] Maltby 2005, 98.
[154] From *super stare*, cf. Serv. *Aen.* 8.187.

quare religio pedibus subiecta uicissim
obteritur, nos exaequat uictoria caelo. (1.78–79)

Therefore Superstition is now in her turn cast down and trampled underfoot, whilst we by the victory are exalted high as heaven.

At the beginning of Book Two, the victorious view from above will be used to describe the point of view of the Epicurean sage.[155]

As for the word *religio*, it will later be connected with *religare*,[156] in a way that clearly emphasizes its inhibiting nature:

primum quod magnis doceo de rebus et artis
religionum *animum* nodis *exsoluere pergo,* (1.931–932 = 4.6–7)

First because my teaching is of high matters, and I proceed to unloose the mind from the close *knots of superstition*…

religione refrenatus *ne forte rearis*
terras et solem et caelum, mare sidera lunam,
corpore diuino debere aeterna manere, (5.114–116)

Lest by some chance *bridled by superstition* you think that earth and sky, sea, stars, and moon, are of divine body and must abide forever…

The argumentative nature of Lucretius' interpretation of both terms can be seen through a comparison with the explanation of *religio* and *superstitio* in the speech of Balbus, the Stoic representative in Book Two of Cicero's *De natura deorum.*[157] The explanation occurs within the context of the definition of true worship. Balbus separates *superstitio* and *religio,* claiming that the distinction does not only have the authority of philosophers, but the authority of the ancestors as well. *Superstitio* is a term of blame: *superstitiosi* was the name given to those who were spending all their time praying that their children become their *superstites*, i.e., outlive them. *Religio*, on the other hand, is a term of praise: *religiosi* were those who carefully reconsidered and retraced (*relegerent*) everything that was relevant for worshipping the gods. It is easy to see how in Lucretius' and Balbus' account two different etymologies of the same words are used as vehicles of two entirely different conclusions about the nature of the concepts the words stand for.

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[155] 2.1ff.

[156] Munro ad 1.109 and Snyder 1980, 121 n. 65 adduce parallels for this etymology from Cicero. Cf. Serv. *Aen.* 8.349; Isid. *Orig.* 8.2.2. Discussed by Friedländer 1941, 19; Snyder 1980, 120–121; Clay 1983, 221 n. 131. Friedländer also suggests that in 1.63–64 *religio* is connected by another link with *regio.*

[157] 2.71–72.

The technique of etymological unpacking we have seen in the examples of *super… instans* and *religio* is also used for explanatory purposes in the parts of the poem that contain more technical discussions. One example of this kind is Lucretius' use of the adjective *subtilis* in his discussion of the substance of the soul and of the films which make possible visual perception. In Book Three, Lucretius uses adjectives *persubtilis* and *subtilis* in order to indicate *fineness* as the primary quality of the particles that compose the mind.[158] *Subtilis* contains a weaving metaphor—it literally means 'that which can pass through a warp' (*sub* + *tela*). Referring at times to the substance of the soul with the word *textura*,[159] Lucretius exploits this metaphor systematically. Further instances of the poets' usage of the adjective *subtilis* confirm his correct understanding of the word's etymology and his conscious play with the metaphor it contains. For example, in Book Four, in a section devoted to visual perception, Lucretius explains that objects give off thin films of particles from their surface, *quae uolgo uolitant*, subtili *praedita* filo—'thin as a thread which can pass through a warp'.[160] In order to understand how thin these films are, one must realize exordia *rerum* | *cunctarum quam sint* subtilia[161] ('how thin the beginnings [i.e. atoms] of all the material objects are'—taking the literal meaning of *exordium*, the phrase also means 'how thin the vertical threads of all the material objects are').[162] *Imagines* or thin films of a horse and of a man readily cling to each other, forming a deceptive new film of a Centaur, *propter* subtilem *naturam et tenuia* texta (because of their delicate nature and thinness of their texture)—*subtilis natura* is used here as a synonym for fine texture.[163]

At the end of Book Four, in the passage we discussed above,[164] Lucretius explains love as physical desire for casting the seed drawn forth from one's own body into the body that caused its swelling, comparable to falling and ejecting the blood in the direction from which the blow in battle came:

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[158] 3.179 and 195. Lucretius is our first Latin testimony for both *subtilis* and *persubtilis*. The adjectives stand for Epicurus' "fine" or "consisting of fine particles" (λεπτός and λεπτομερής), e.g., "the soul (i.e., nervous system and mind together) is a body consisting of small particles, interspersed throughout the whole tissue (of the human organism)" (Ἡ ψυχὴ σῶμά ἐστι λεπτομερὲς παρ' ὅλον τὸ ἄθροισμα παρεσπαρμένον, *Her.* 63).

[159] 3.209.

[160] 4.88. Cf. 2.341 and 5.572.

[161] 4.114–115.

[162] Cf. West 1969, 80–82.

[163] 4.743. Cf. Pope 1949, 77.

[164] See pp. 96–97.

sic igitur Veneris qui telis accipit ictus,
siue puer membris muliebribus hunc iaculatur
seu mulier toto iactans *a corpore* amorem
unde feritur, eo tendit gestitque coire
et iacere umorem *in corpus de corpore ductum;*
namque uoluptatem praesagit muta cupido. (4.1052–1057)

So therefore, if one is wounded by the shafts of Venus, whether it be a boy with girlish limbs who launches the shaft at him, or a woman *radiating love* from her whole body, he tends to the source of the blow, and desires to unite and to *cast the fluid* from body to body; for his dumb desire presages delight.

According to the Stoic etymological principle of the change of letters, *commutatio*, the παρονομασία or *adnominatio amor-umor* would by Lucretius' contemporaries also be regarded as an etymology.[165] Friedländer interprets *hinc est nomen Amoris* in the line following the quoted paragraph as an explicit reference to the etymology *amor-umor*,[166] but it seems more likely that the etymological marker *nomen* simply refers back to *cupido* in the preceding line. The *adnominatio amor-umor* aptly captures the connection that Lucretius seeks to establish.

Only a bit later, Lucretius uses another *adnominatio* in order to strengthen his case for the unpleasant consequences of love that is not understood as a simple physical need. Lovers prepare lavish banquets, but

nequiquam, quoniam medio de fonte leporum
surgit amari *aliquid quod in ipsis floribus angat* (4.1133–1134)

But all is vanity, since from the very fountain of enchantment rises a drop of *bitterness* to torment even in the flowers…

The pun *amor-amarus* is common in Latin poetry,[167] whence it enters oratory and becomes one of the standard examples in rhetorical handbooks.[168]

Lucretius plays with the idea that words reflect the nature of things they refer to not only on a semantic level, but on an acoustic level as well. In Book Two, he applies calculation (λογισμός, *animi ratio*) to show

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[165] Cf. *Rhet. Her.* 4.29 and Var. *Ling.* 6.2.

[166] 1941, 18.

[167] E.g., *an amare occipere amarum est* (Plaut. *Cist.* 68), *amor amara dat* (id. *Trin.* 260), and *Et uitula tu dignus, et hic, et quisquis amores | aut metuet dulcis, aut experietur amaros* (Verg. *Ecl.* 3.109–110), adduced by Snyder 1980, 65 and 114, and Brown 1987 *ad loc.*

[168] E.g., *nam amari iucundum sit, si curetur ne quid insit amari* (*Rhet. Her.* 4.21 and Quint. *Inst.* 9.3.69), adduced by Snyder 1980, 114–115.

that the hypothesis of different atomic sizes and shapes successfully explains certain phenomena from the realm of our senses. Among these, he discusses the different effects produced on our sense of taste by honey and milk on one side, and wormwood and centaury on the other:

> *Huc accedit uti* mellis lactisque liquores
> *iucundo sensu linguae tractentur in ore*;
> *at* contra taetra absinthi natura ferique
> centauri *foedo pertorquent ora sapore*;
> *ut facile agnoscas e leuibus atque rutundis*
> *esse ea quae sensus tangere possunt*,
> *at contra quae amara atque aspera cumque uidentur*
> *haec magis hamatis inter se nexa teneri* (2.398–405)

> Moreover, the liquids of honey and of milk have a pleasant taste as they are moved about in the mouth; but contrariwise the loathsome nature of wormwood and of harsh centaury twists up the mouth with a noisome flavor; so that you may readily recognize that those bodies which can touch our senses pleasantly are made of smooth and round atoms, but contrariwise all that seem to be bitter and rough are held in connection by atoms more hooked…

The alliteration in *mellis lactisque liquores* recalls the unanimous judgment of ancient critics about the euphonious effect of the liquid *l*.[169] It is as if the *l* in *mel* and *lac* reflects the rounded, pleasant nature (*rutunda, iucunda*) of the two liquids. On the other side, dominant dental *t*, alone or combined with *r* in the following couplet, seems to reflect the bitter and sharp nature (*amara, aspera*) of the cures.[170] A bit later, the poet explains how different atoms constitute the sounds of a saw and the sounds of music:

> *ne tu forte putes* serrae stridentis acerbum
> horrorem *constare elementis leuibus aeque*
> *ac musaea mele, per chordas organici quae*
> *mobilibus digitis expergefacta figurant.* (2.410–413)

> So that you must never think that the harsh grating of a strident saw consists of elements as smooth as the melodies of music which harpers awaken and shape on the strings with nimble fingers.

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[169] Cf. Pl. *Cra.* 427b and 434c ff.; Theophrastus in Dem. *De eloc.* 174; Phld. *Po.* 2 fr. 5 Hausrath.

[170] Dentals were thought to have a nature directly opposite to *l*, stopping the flow (Pl. *Cra.* 427a–b). Cf. different interpretations of Friedländer 1941, 22 and Snyder 1980, 91–92.

The cacophony of the sound produced by a saw is reflected in the sounds of words heavily based on *r* (the *littera canina*), while the euphony of music[171] is instantly obvious in the sound of the striking continuum of exotic Greek words. These examples of onomatopoeia bring to mind one of the main principles of Stoic etymology, μίμησις or *similitudo*, according to which the sounds within words imitate the qualities of the objects they refer to.[172]

The etymologies discussed above are implicit—they require interpretation to become argumentative links. Some play with well-known connections, such as *amor-amarus*; others are, as far as we can tell, more creative. Three main forms of Lucretian etymology can be distinguished. The first type is παρονομασία or *adnominatio*, e.g., *materies-mater* and *amor-umor*, with the effect that *ad res dissimiles similia uerba adcommodentur* (the same words are applied to dissimilar things),[173] in such a way that the similarity of words corroborates the analogy that is being established between two different things in the given section of the text. The second type is etymological unpacking, such as in the cases of *religio*, *superstitio* and *subtilis*, designed to create an argumentative link by revealing the metaphors—we may also say "conceptual substructures"[174]–latently present in the words the poet chose to use. Finally, we have seen etymologies that exploit the onomatopoeic features of certain words, such as *mel* and *lac*. Each of these etymologies is used as an argument, contributing to the overall persuasive force of the section in which it appears; none of them, however, has the role of a central proof, but rather of an additional, corroborative proof.

Epicurus taught that language developed gradually.[175] At the initial stage, words were voiced reactions to feelings and sense-impressions. Thus formed, the primary body of language was then improved by conventions made to eliminate ambiguity and increase conciseness. In addition to this, certain unseen entities and names for them were introduced by men who shared their knowledge.[176] Lucretius'

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171 Schrijvers 1970, 35–36 draws attention to the similarity between *musaeo melle* (1.947) and *musaea mele* (2.412).

172 See Augustinian *De dialectica* 6.

173 *Rhet. Her.* 4.29.

174 Cairns 1996, 24.

175 *Her.* 75–76. Cf. D.S. 1.8.3–4. For a summary of Epicurus' teaching on the development of language see Sedley 1973, 17–23.

176 Cf. for example Epicurus' invention of the word πρόληψις: *sunt enim rebus nouis noua ponenda nomina, ut Epicurus ipse prolempsin appellauit, quam antea nemo eo uerbo nominarat* (Velleius in *De natura deorum* 1.44).

account in Book Five includes two stages, spontaneous utterance of voice, prompted by nature, and the shaping of the voices into names, prompted by usefulness.[177] Epicurus' main idea that the starting point for the development of language is not invention, but natural process, is made clearer by Lucretius, who refutes the theory of deliberate creation and transmission of language by a first inventor.[178] The purpose of both accounts is to eliminate the elements of myth and teleology from the history of language.[179] Epicurus' explanation, however, allows significant etymologies. The liquid voice *l* in Latin words *mel* and *lac*, for example, could reflect the initial experience of smoothness that the two substances produce in human mouth. The connections such as *mater-materies*, *superstitio-super instare*, and *religio-religere* could reflect naming by association at a more advanced stage of language development, at which the names for abstract entities were invented. It is thus not surprising that Epicurus himself did not shun etymological connections in his explanations. According to Sextus Empiricus' report of Epicurus' view that three different terms, 'void' (κενόν), 'place' (τόπος), and 'room' (χώρα), reflect three different states of one and the same 'intangible substance' (ἀναφὴς φύσις), Epicurus explained the noun χώρα in connection with χωρεῖν ('to advance', 'to move'), and defined the term as a specific indication for intangible substance through which bodies move (χωρούντων δὲ δι' αὐτῆς [sc. ἀναφοῦς φύσεως] σωμάτων χώρα γίνεται).[180]

Although we know that Epicurus used arguments from etymology in his explanations, we do not have any evidence that he developed a systematic study of etymology based on his views on the development of language, as the Stoics did.[181] An internal link between words and the things they represent, or between language and physics, is not a hallmark of Epicurus' teaching. Lucretius' use of etymological connections can be compared with Epicurus' use of etymology as an explanatory strategy, but it cannot be clarified in reference to Epicurus' theory of language and physics. This is why the hypothesis that Lucretius'

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[177] 5.1028–1029.

[178] Cf. the account of Diogenes of Oenoanda (12.II.11–V.14 Smith), where the main point is also the refusal of the first inventor.

[179] Cf. Dalzell 1987, 26.

[180] S.E. *M.* 10.2.

[181] *Audeamus imitari Stoicos, qui* studiose *exquirunt unde uerba sint ducta* (Cic. *Off.* 1.23). As an illustration, see the account of Balbus (*Nat. deor.* 2.64–69), and Cotta's response (*Nat. deor.* 3.62–63).

etymologies constitute atomistic poetics, which should be seen as the central feature of the poet's work,[182] is not persuasive. The atomistic analogy between letters and atoms, on which this hypothesis relies, is no more than a very effective analogy. We should not allow its poetic force to influence our judgment to such an extent that we begin seeing the source of Lucretian etymology in his "atomology",[183] i.e., Epicurus' teachings on physics, or extend this logic even farther and take *DRN* to be some sort of a carefully executed verbal simulacrum of the physical universe.[184] Lucretius' statements about his poetic procedures clearly point out that his language is not meant to encode, but to clarify the world. In fact, as many proponents of etymology-atomology theory recognize, Lucretian etymology is directly connected with his argumentation;[185] I would argue that it simply constitutes one of his argumentative procedures. My examination of some of the examples adduced by the proponents of atomology shows that Lucretius used etymology with caution to create or corroborate certain *correct* analogies, and that the procedure does not require an explanation based on the analogy between letters and atoms blown out of proportion.

Lucretius' use of etymology on the one hand continues an old poetic tradition;[186] on the other hand it coincides with the generally accepted types of argumentation in the rhetorical and philosophical debate of his own time. The common ancestry of poetic, rhetorical, and philosophical argumentation enabled the poet to use this traditional stylistic feature as an instrument for revealing the truth of Epicurus' philosophical principles.

Arguments from Definition

The discussion of arguments from definition in Cicero's *Topica* immediately precedes the discussion of arguments from etymology. Both types of arguments are derived from an analysis of the subject of discussion. Definition, according to Cicero, is a verbal explanation of the thing in

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182 Friedländer 1941; Giancotti 1959; Snyder 1980; Ferguson 1987; Dionigi 1988; Armstrong 1995; Maltby 2005.

183 The pun was introduced by Friedländer 1941, 17; it provides a good illustration of the general applicability of puns in explanatory accounts.

184 Thury 1987; Dionigi 1988; Schiesaro 1995; Holmes 2005.

185 E.g., Snyder 1980, 125–127, and Maltby 2005, 97–98.

186 Cf. West 1981, 27 and 1990, 649.

question.[187] The *modus definitionis* consists of pursuing the qualities of the thing being defined until one has isolated its distinctive quality, a quality that can be transferred to no other thing. This can be achieved by partition (division of a thing into its parts, *membra*) or logical division (division of a *genus* into classes, *species/formae*).[188] An example of enumeration is the definition of *civil law* as consisting of laws, decrees of the Senate, decisions of judges, expertise of lawyers, edicts of magistrates, custom, and equity. An example of logical division is the definition of *abalienatio* as either a transfer of possession with legal obligation of the recipient, or the giving up of possession in the court, between those who are allowed to take part in this procedure according to the civil law. Orators and poets, adds Cicero, often define things through metaphor and analogy, using a method that brings a certain pleasure—e.g., youth as the flower of one's age, and old age as the sunset of one's life.[189]

Naturally, many of Lucretius' definitions belong to the sort that Cicero attributes to orators and poets; formal definitions in *DRN* are comparatively rare.[190] Nevertheless, Lucretius does define all the concepts he wishes to convey. The first instance of the terms that would require definition in *DRN* would be the lines that introduce Lucretius' terminology for atoms:

> … *et rerum primordia pandam,*
> *unde omnis natura creet res auctet alatque*
> *quoue eadem rursum natura perempta resoluat,*
> *quae nos* materiem *et* genitalia corpora *rebus*
> *reddunda in ratione uocare et* semina rerum
> *appellare suëmus et haec eadem usurpare*
> corpora prima, *quod ex illis sunt omnia primis.* (1.55–61)

> … and I shall disclose the first-beginnings of things, from which nature makes all things and increases and nourishes them, and into which the same nature again reduces them when dissolved, which, in discussing philosophy, we are accustomed to call *matter*, and *bodies that generate things*, and *seeds of things*, and to entitle the same *first bodies*, because from them as first elements all things are.

In his analysis of the beginning of philosophical argumentation in Book One, C.J. Classen drew attention to Lucretius' use of terminol-

[187] *Top.* 26.
[188] *Top.* 28.
[189] *Top.* 32.
[190] For example, in Book One Lucretius follows Epicurus defining universe as a sum of body and void (1.419–420). Cf. above, pp. 25 and 38.

ogy that had not been previously explained. Reflecting in particular on the terms *rerum primordia*, *materies, genitalia corpora, semina rerum* and *corpora prima*, Classen took the phenomenon to be one of the indicators of the poet's failure to lay down a "generally acceptable" foundation for further discussion.[191] If we exchange the external criterion of general acceptability for a view that is based on the internal logic of the poem, we may say that, instead of giving a definition, Lucretius creates the notion of atom via an amalgam of defining properties derived from several complementary metaphors.[192] These metaphors will be systematically exploited throughout the course of the poem, each being used in its most appropriate context. The important etymological connotations of *materies* have already been discussed above;[193] both the compound *primordia* in *rerum primordia* and adjective *prima* in *corpora prima* suggest the Greek philosophical notion of the 'beginning' (ἀρχή) of everything; finally, the adjective *genitalia* and the noun *semina* form a biological 'root-metaphor'[194] complementary to *materies*.

The example of *semina* will provide a good illustration of the way in which Lucretius uses a metaphor as a *definiens*. *Semina* is a clear rendering of Epicurus' σπέρματα. This term, via the first atomists, goes back to Anaxagoras, who had also applied it to inorganic substances.[195] When it appears for the first time in line 1.59 of *DRN*, the metaphor of seed does not only look back to the imagery related to birth that dominates the opening of the poem,[196] but also forward, anticipating the explanations of the basic principles of creation. There it will have an important or even central role, since Lucretius will explain these principles exclusively in terms of organic growth (e.g., everything grows from a seed, in a certain season and from a certain seed, up to a certain size).[197] These explanations show how the poet divides the territories of the possible and the impossible using the limits imposed by the concept of *semen*, his poetic interface for the notion of atom.

In his treatment of the films in Book Four, Lucretius will follow the same procedure as in the case of atoms, and provide a set of

[191] Classen 1968, 81–84.

[192] Cf. Sedley 1999, 229–231, who discusses Lucretius' translation of Greek technical terms.

[193] See pp. 114–115.

[194] See above, p. 94 n. 58.

[195] Lloyd 1966, 244–247.

[196] Cf. Clay 1969, 38–39 (= 1998, 129); Kennedy 2000, 214–217.

[197] 1.160, 176, 189, 206. Cf. Schrijvers 1978, 81–84.

suggestive metaphors that outline the defining characteristics of films not individually, but creating a composite picture. Rendering Epicurus' term εἴδωλα, the poet first introduces the term *simulacra*,[198] then the terms *effigies* and *figura*,[199] and finally the term *imago*.[200] The films are thin atomic formations emitted by objects, and one of their defining characteristics is that they preserve the forms of the surfaces from which they come. All the words used by Lucretius effectively convey the idea of iconic reproduction,[201] preserving the general Epicurean emphasis on visual perception.

At times, however, Lucretius does provide a formal definition. For example, the concepts of *coniunctum* and *euenta* are explicitly defined:

coniunctum est id quod nusquam sine permitiali
discidio potis est seiungi seque gregari,
pondus uti saxis, calor igni, liquor aquai
tactus corporibus cunctis, intactus inani.
seruitium contra paupertas diuitiaeque,
libertas bellum concordia, cetera quorum
aduentu manet incolumis natura abituque
haec soliti sumus, ut par est, euenta uocare. (1.451–458)

A property is that which without destructive dissolution can never be separated and disjoined, as weight is to stone, heat to fire, liquidity to water, touch to all bodies, intangibility to void. Slavery, on the other hand, poverty and riches, freedom, war, concord, all else which may come and go while the nature of things remains intact, these, as is right, we are accustomed to call accidents.

The function of this section is to establish a clear contrast between the two concepts. The contrast is secured by the chiastic arrangement of the two segments: the section on *coniunctum* (451–454) opens with the very word, starts with the definition and continues with examples; the section on *euenta* (455–458) begins with examples and ends with the definition, with the very word *euenta* occurring at the last metrically available position, as the penultimate word in the line. The types of examples included in each section expand the contrast into a clear conceptual dichotomy: the examples for *coniuncta* are taken exclusively from the inanimate realm of physics, while the examples for *euenta*

198 4.30.
199 4.42.
200 4.52.
201 Cf. Sedley 1999, 231–234.

include exclusively the circumstances of human life—the circumstances that evoke the themes of popular philosophical discourse.

A number of important explicit definitions in *DRN*, those that deal with the questions related to gods and religion, are highlighted by their position, appearing as the second, antithetical part in a contrasting passage. The technique of exposition in which an erroneous view is expressed only to be wiped away by the true account reflects directly Lucretius' aim of redefining of popular ideas about religion. The occurrence of the famous passage about the nature of gods in Book Two provides a good illustration. Ending his long and elaborate *excursus* on the alleged religious significance of *Magna Mater*, interspersed with brilliant poetic illuminations, Lucretius concludes with the following lines:

> *Quae bene et eximie quamuis disposta ferantur,*
> *longe sunt tamen a uera ratione repulsa.*
> *omnis enim per se diuom natura necessest*
> *inmortali aeuo summa cum pace fruatur*
> *semota ab nostris rebus seiunctaque longe;*
> *nam priuata dolore omni, priuata periclis*
> *ipsa suis pollens opibus, nil indiga nostri*
> *nec bene promeritis capitur neque tangitur ira.* (2.644–651)

> But well and excellently as all this is set forth and told, yet it is far removed from true reasoning. For the very nature of divinity must necessarily enjoy immortal life in the deepest peace, far removed and separated from our affairs; for without any pain, without danger, itself mighty by its own resources, needing us not at all, it is neither propitiated with services nor touched by wrath.

The contrast between this and the preceding section is stark. The first two lines introduce one of the maneuvers that Lucretius uses frequently—a fairly long exposition (in this case 43 lines) is undercut by a short statement that its content is wrong.[202] Besides the advantage of drastically reduced length, Lucretius' definition of divine nature is also marked by a solemn tone. Its central lines (647–648) are heavily spondaic, and their rhythm emphasizes the idea of the remote dignity of gods.

One of the notable ways in which Lucretius manages to give prominence and persuasive force to his defining statements is the figure that late Latin rhetoricians call corrective statement, *correctio*,[203] a syntac-

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[202] E.g., 1.377, 1.880, 3.98–105, 5.406. The procedure is prosaic, e.g., Cic. *Fin.* 1.19.

[203] See Lausberg §785, 1, and Traina 1974, 93–95. Eustathius calls the figure τὸ κατὰ ἄρσιν καὶ θέσιν… σχῆμα (Ernesti *s.v.* ἄρσις).

tic structure of the type 'not A, but B'. The figure is of a colloquial nature[204] and most common in prose—it is not only abundantly attested in diatribe and rhetorical declamation,[205] but also in the works of Epicurus. In the *Letter to Menoeceus*, for example, Epicurus says that an impious man is "*not* he who does away with the popular views on gods, *but* he who attaches to gods popular beliefs about them" (ἀσεβὴς δὲ *οὐχ* ὁ τοὺς τῶν πολλῶν θεοὺς ἀναιρῶν, *ἀλλ'* ὁ τὰς τῶν πολλῶν δόξας θεοῖς προσάπτων).[206] In Book Five, correcting the popular concept of *pietas*,[207] Lucretius expands the rhetorical scheme into a period that provides the whole section with an effective didactic *finale*:

> Nec *pietas ullast uelatum saepe uideri*
> *vertier ad lapidem atque omnis accedere ad aras*,
> nec *procumbere humi prostratum et pandere palmas*
> *ante deum delubra*, nec *aras sanguine multo*
> *spargere quadripedum*, nec *uotis nectere uota*,
> sed *mage placata posse omnia mente tueri*. (5.1198–1203)

> It is *no* piety to show oneself often with covered head, turning towards a stone and approaching every altar, *none* to fall prostrate upon the ground and to spread open the palms before the shrines of the gods, *none* to sprinkle altars with the blood of beasts in showers and to link vow to vow; *but* rather to be able to survey all things with tranquil mind.

The definition of the real act of piety[208] is placed at the end of a long series of examples of traditional worship. Due to the accumulation of negative examples, the concluding programmatic statement gains additional force both by virtue of its position and by virtue of its brevity. The very structure of the period creates the dynamics of expectation and fulfillment, and this mechanism effectively drives the defining statement home.

The mechanism of an elaborate *correctio* is similar to that of the priamel.[209] The priamel that opens Book Two has a function very

[204] Cf. Scherer 1975, 216–217.
[205] See Weber 1895, 15; Traina 1974, 93–95.
[206] *Men.* 123.
[207] The definition of piety was a standard element in the philosophical debate about religion. Cicero's Cotta will also derive his argument against Epicurus from a definition—*est enim pietas iustitia aduersum deos* (for piety is justice towards gods, *Nat. deor.* 1.116).
[208] Lucretius shares his concern for the question of real piety with Empedocles. For the discussion see Clay 1983, 255, and Gale 1994, 72.
[209] As defined by E.L. Bundy: "The priamel is a focusing or selecting device in which one or more terms serve as foil for the point of particular interest". For this definition

similar to that of *correctio* in the previous example. This time, the focus is the definition of the *summum bonum*:

> Suaue, *mari magno turbantibus aequora uentis,*
> *e terra magnum alterius spectare laborem;*
> *non quia uexari quemquamst iucunda uoluptas*
> *sed quibus ipse malis careas quia cernere suaue est.*
> suaue *etiam belli magna certamina tueri*
> *per campos instructa tua sine parte pericli.*
> sed nil dulcius est *bene quam munita tenere*
> *edita doctrina sapientum templa serena*
> *despicere unde queas alios passimque uidere*
> *errare atque uiam palantis quaerere uitae…*[210] (2.1–10)
>
> *Pleasant it is*, when on the great sea the winds trouble the waters, to gaze from shore upon another's great tribulation: not because any men's troubles are a delectable joy, but because to perceive what ills you are free from yourself is pleasant. *Pleasant is it* also to behold great encounters of warfare arrayed over the plains, with no part of yours in the peril. *But nothing is more delightful* than to possess lofty sanctuaries serene, whence you may look down upon others and behold them all astray, wandering abroad and seeking the path of life…

The main observations we made about Lucretius' use of definition reveal a similarity to the practice of Epicurus that is even stronger than one might initially expect, given the limits of the genres in which the two authors work. First, we noted a relative scarcity of definitions in *DRN*. The phenomenon is by no means only a result of the requirements imposed by the poetic register of Lucretius' diction. Epicurus himself was fairly notorious for his avoidance of definitions—an attitude consistent with his general rejection of formal logic.[211] For Epicurus, names are clearer than definitions,[212] and this belief motivates his methodological insistence on seeing clearly the primary concept (τὸ πρῶτον ἐννόημα) corresponding to particular verbal expression (καθ' ἕκαστον φθόγγον).[213]

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and a more detailed discussion of the defining properties of the priamel see Race 1982, 7–17.

[210] The dramatic tone and sublimity of the passage were discussed in Bignone 1939 (who compared it to Theocr. 1.1) and Conte 1966; the structure of priamel was noted by Race 1982, 118.

[211] Cf. above, p. 66.

[212] Ἐπίκου[ρ]ος τὰ ὀνόματά φησ[ι]ν σαφέστερα εἶναι τῶν ὅρων (Anon., *in Plat. Theaet.* 22.39–42).

[213] *Her.* 37.

Despite his insistence on one-to-one correspondence between words and concepts, Epicurus' technical terminology displays a variety entirely comparable to that we have seen in Lucretius. For example, the terms he uses for atoms are multiple—σπέρματα,[214] στοιχεῖα,[215] ἀρχαί,[216] and ἄτομοι,[217] and his choice of a particular term depends on the needs of the particular context in which it will be used. His practice shows that he is very sensitive to the metaphorical mechanisms involved in the creation of technical vocabulary: for example, his use of the term σπέρματα in *Her.* 37 contains *in nuce* the series of arguments from biological growth we have seen in *DRN.*

Those approximate equivalents of definitions that we do see in Epicurus, such as his identification of an impious man, also contain a condensed expressive potential. Lucretius' enthusiastic imagination did not have much difficulty in grasping such elements of diction as *correctio* and developing them, either into a full period foiling a defining statement, or into a priamel, with an equally impressive effect. Lucretius' procedure is considerably more intensive, but not qualitatively different from that of Epicurus.

Arguments From Cause and Effect

Cicero's basic division of causes comprises two categories. First, there are causes that necessarily produce certain results by their force, as fire necessarily produces burning (the type is then subdivided into those which do not need and those which do need further help from other causes). Second, there are causes that cannot produce certain results as efficient causes, but without which the results of the action cannot be obtained, as bronze is the cause of the statue, since the statue cannot be produced without it (the type is subdivided further into passive and active causes).[218] Concluding his discussion of this *locus*, Cicero observes that it produces a great abundance of arguments in the important discussions of orators and philosophers.[219] Then he adds a

[214] E.g., *Her.* 38.
[215] E.g., *Pyth.* 86.
[216] E.g., *Her.* 41.
[217] E.g., *Her.* 43.
[218] *Top.* 58–59.
[219] *Top.* 65.

brief treatment of the cognate *locus* from the effects arising from causes, which he recommends as useful for orators, poets, and philosophers.[220]

Lucretius uses explanations relying on causes and effects to clarify some of the most important points in his poem. These points belong to two fields, the field of physics and the field of ethics. In the first realm, causality aids in the reduction of all visible phenomena to movement of atoms in void. In the second realm, the ignorance of physical laws is presented as a cause of undesirable consequences.

Epicurean physics reveals a clear hierarchy of causes, faithfully preserved in *DRN*. *Natura* as the principal cause consists of bodies and void:

> *omnis ut est igitur per se natura duabus*
> *constitit in rebus; nam corpora sunt et inane*
> *haec in quo sita sunt et qua diuersa mouentur.* (1.419–421)

> The nature of the universe, therefore, as it is in itself, is made up of two things; for there are bodies, and there is void, in which these bodies are and through which they move this way and that.

Everything is caused by the movement of bodies in void. In Book One Lucretius explains the permanent nature of body and void by contrasting it with the transient nature of their accidents. The example he gives is the Trojan War. Two chosen points of the war, its beginning and its end, are connected internally by the image of the gradual spread of fire,[221] developed in a memorable amplification:

> *denique materies si rerum nulla fuisset*
> *nec locus ac spatium, res in quo quaeque geruntur,*
> *numquam Tyndaridis forma conflatus amore*
> *ignis, Alexandri Phrygio sub pectore gliscens,*
> *clara accendisset saeui certamina belli,*
> *nec clam durateus Troiianis Pergama partu*
> *inflammasset equos nocturno Graiiugenarum.*[222] (1.471–477)

> Again, if there had been no material for things, and no place and space in which each thing is done, no fire fanned to flame by love through the beauty of Tyndareus' daughter and glowing beneath the breast of Phrygian Alexander would ever have set alight blazing battles of savage

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220 *Top*. 67.

221 The image comes from Ennius' *Alexander*, and ultimately from Euripides' trilogy consisting of *Alexander*, *Palamedes*, *Troades* and the satyr play *Sisyphus*. See Marković, fothcoming (a).

222 West 1969, 86 discusses the features of epic register—synallage *Phrygio pectore*, Homeric epithet *durateus*, and *Graiiugenarum*, an epic *uerbum sesquipedale*.

> war; no wooden horse, unmarked by the sons of Troy, would ever set Pergama in flames by its night-born brood of Grecians.

Without body and void, there would be no fire in the heart of Paris to motivate his abduction of Helen, and there would be no fire that consumed the walls of Troy.[223] No part of this story, concludes Lucretius, exists in itself in the way in which body and void exist.

In the part of this discussion devoted to arguments from analogy we have already seen a number of physical phenomena explained by atoms, their properties, and their movement. The main goal of Lucretius' argumentation in the sections devoted to physics could be described as a systematic progress by which phenomena are referred back to already familiar principles: movement exists because of void, the dust moves in the beams of the sun because of the movement of atoms in void, the soul is composed of atoms moving in void, and the same principle must be used for the explanation of celestial phenomena. The goal of this systematic progress is thoroughly to exclude any possibility of divine intervention in nature.

The elimination of divine causes leaves a personified *natura* as the principal cause of all the phenomena:

> *Quae bene cognita si teneas, natura uidetur*
> *libera continuo, dominis priuata superbis,*
> *ipsa sua per se sponte omnia dis agere expers.* (2.1090–1092)
>
> If you hold fast to these convictions, nature is seen to be free at once and rid of proud masters, herself doing all by herself of her own accord, without the help of the gods.

The word *natura* actually expresses absence of an agent,[224] and the discourse in which *natura* is personified, as D. Kennedy points out, is essentially not scientific, but religious.[225] More persistently than Epicurus,[226] Lucretius systematically takes advantage of the language of religion, giving *natura* a number of different agent-roles in his poem—for example the role of a mother (e.g., *natura creatrix* or *genetrix*, nature the maker or birth-giver),[227] a lawgiver (e.g., *unde neque auelli quicquam neque deminui iam | concedit natura*, and from these nature allows nothing to be torn

[223] A motif imitated by Vergil in Book Four of the *Aeneid*. Cf. Hardie 1986, 232–233.
[224] Cf. Pellicer 1966, 329–331.
[225] Kennedy 2000, 219.
[226] See the discussion of the difference between Epicurus' φύσις and Lucretius' *natura* in Clay 1983, 87–95.
[227] 1.629.

away or diminished),[228] or a teacher (e.g., *at specimen sationis et insitionis origo | ipsa fuit rerum primum natura creatrix*…, but the pattern of sowing and the beginning of grafting first came from nature herself the maker of all things…).[229] The rhetorical benefit gained through Lucretius' appropriation of religious language can be seen, as Kennedy argues, in the fact that it makes the cold, scientific notion of nature more accessible to the reader, "domesticating" it by the familiar frame of the traditional language of divine design and teleology.[230] This rhetorical strategy is not unconscious: as we have seen earlier,[231] at the end of his polemical *excursus* against the *Magna Mater* of the Greek *docti poetae*, Lucretius says that one may use conventional religious language, as long as one is not affected in reality by the shameful superstitious beliefs associated with it.[232]

Explanations relying on causes and effects provide a number of proofs for the Epicurean tenets concerning traditional religion. In Book One, for example, the poet turns the charge of impiety against those who would want to apply it to Epicurean teaching.[233] He achieves this goal by arguing that it is actually traditional religion that is the cause of *impia facta*. As an illustration, he brings in front of our eyes the scene of the sacrifice of Iphigenia.[234] The scene has already been discussed as an example of *ecphrasis*;[235] here we should note that the poetic passage is actually used as evidence or proof for the thesis that traditional religion stands behind impious deeds.

The argument that traditional religion produces such effects as bloodshed will be evoked again in an example in Book Two, in which a mother cow is looking for her child in vain, because it has been sacrificed to the gods.[236] This example is a part of the proof that each individual being has a different appearance, which in turn forms an argument from analogy, intended to prove that just like living beings, atoms have different forms. The elaborate details of the example—the

[228] 1.613–614.
[229] 5.1361–1365.
[230] Kennedy 2000, 219.
[231] Above, p. 94.
[232] Kennedy 2000, 223–224.
[233] For Lucretius' strategy of turning the charge of impiety against non-Epicureans see Gale 1994, 45–50.
[234] 1.84–101. Calboli 2003, 199 regards the passage as a poetic version of *relatio criminis* in a judicial speech (cf. Cic. *Inu.* 2.78).
[235] Above, p. 36.
[236] 2.352–366.

vivid description of the death of the calf, and the bereaved mother's vain search—provide sufficient evidence that, although this is not the central purpose of the passage, the example is used to corroborate the association between traditional religion and such effects as the pain of a mother whose child has been slaughtered.

Belief in gods is caused by general ignorance about the sky and other wonders of nature. In Book Five Lucretius develops this argument within the context of his account of the development of civilization.[237] The opening image of this section evokes the section in Book One in which man dares to raise his gaze from earth up to the sky, whence dreadful religion lifts up its head—only now it is fear that lifts up its head within our hearts:

> *nam cum suspicimus magni caelestia mundi,*
> *templa super stellisque micantibus aethera fixum,*
> *et uenit in mentem solis lunaeque uiarum,*
> *tunc aliis oppressa malis in pectora cura*
> *illa quoque expergefactum caput erigere infit*
> *nequae forte deum nobis inmensa potestas*
> *sit, uario motu quae candida sidera uerset.* (5.1204–1210)

> For when we look upwards to the celestial regions of the great firmament to the ether studded with glittering stars, when we think of the ways of sun and the moon, into our hearts already crushed with other woes a new anxious care awakening begins to lift up its head, whether by any chance we have to do with some immeasurable power of the gods, able to make the bright stars revolve with their different movements.

In Book Six, introducing the sky as his new topic, Lucretius looks back to the same section in Book One:

> *cetera quae fieri in terris caeloque tuentur*
> *mortales, pauidis cum pendent metibu' saepe*
> *et faciunt animus humilis formidine diuom*
> *depressosque premunt ad terram propterea quod*
> *ignorantia causarum conferre deorum*
> *cogit ad imperium res et cedere regnum.* (6.50–55)

> And [I will explain] all else that men see happening in earth and sky, when they are often held in suspense with affrighted wits—happenings which abase their spirits through fear of the gods, keeping them crushed to the earth, because their ignorance of causes compels them to refer events to the dominion of the gods, and to yield them the place of kings.

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[237] 5.1204–1240.

The connection between the sky and religion is not an Epicurean invention—it is an Epicurean parody of Aristotle's famous argument for the existence of gods (from an early, lost work, *De philosophia*).[238] This argument was a standard weapon in the Stoic anti-Epicurean arsenal: in Book Two of Cicero's *De natura deorum*, Balbus quotes the passage from Aristotle, in which belief in the gods is explained as the inevitable result of human encounter with the wonders of the sky.[239] But in Lucretius' account, it is actually the *rationis egestas* about celestial and other natural phenomena that causes fear of gods.[240] In the following lines the poet vividly describes the fear-provoking effects of thunder, storms, and earthquakes.

Some of the rational explanations for the phenomena that cause belief in the supernatural were already given in Book Four, where Lucretius explained how the phenomenon of the echo causes the belief in satyrs and nymphs,[241] and how our minds see Scyllas and Centaurs because the thin films that convey images combine in the air.[242] In Book Five the principle of stating the theoretical possibility of several causes of astronomical phenomena is introduced;[243] in Book Six the principle will be reiterated and clarified by an analogy:

> *Sunt aliquot quoque res quarum unam dicere causam*
> *non satis est, uerum pluris, unde una tamen sit:*
> *corpus ut exanimum siquod procul ipse iacere*
> *conspicias hominis, fit ut omnis dicere causas*
> *conueniat leti, dicatur ut illius una;*
> *nam neque eum ferro nec frigore uincere possis*
> *interiisse neque a morbo neque forte ueneno*
> *uerum aliquid genere esse ex hoc quod contigit ei*
> *scimus. item in multis hoc rebus dicere habemus.* (6.703–711)

> There are also a number of things for which it is not enough to name one cause, but many, one of which is nevertheless the true cause: just as if you should yourself see some man's body lying lifeless at a distance, you may perhaps think proper to name all the causes of death in order that the one true cause of the man's death may be named. For you could not prove that steel or cold had been the death of him, or disease, or it may

[238] Used by Lucretius most memorably in 2.1026–1037. Cf. Bignone 1973, 2.73ff. (= 1936, 2.413ff.). For *testimonia* see Rumpf 2003, 151–152 n. 85.
[239] For parallels see Pease *ad loc.*
[240] 5.1211.
[241] 4.563–594.
[242] 4.724–748.
[243] 5.526–533.

> be poison, but we know that what has happened to him is something of this sort. Even so in many cases we have the like to say.

In this criminal case a conclusive proof is impossible, since the dead body is seen from afar, and there is no empirical evidence to determine the way in which it met its death. Still, one can enumerate the causes that correspond to our experience of how human bodies might die, claiming that one of these must be the cause in this particular case. This method is used throughout Book Five and Book Six to explain the causes of a number of celestial and terrestrial phenomena.[244]

Arguments from effect also provide proofs against the views fostered by traditional religion. For example, the introduction to Book Three contains a striking list of examples of criminal or disgraceful behavior, illustrating the effects of the fear of death and Acheron: avarice and blind desire for public honors leading to crime—civil bloodshed, greedy accumulation of riches accomplished by murder; joy in the death of a brother, suspicion, envy; destruction of one's own life by ambition, or, ironically, suicide; finally, violation of the bonds of *pudor*, *amicitia*, and *pietas*, such as the betrayal of one's fatherland and parents.[245]

Arguments from effect are also important in understanding various physical phenomena. For example, the particles of the mind must be smooth because the mind moves swiftly;[246] they must be extremely small because there is no change in weight after death;[247] they must be at distance from each other because we cannot feel certain things whose dimensions are small on our skin.[248]

In conclusion, Lucretius develops the links of causes and effects in the universe in a well-planned way. The causal connections developed from the hypothesis of the movement of atoms in the void have central importance in the poem, since they directly prove the impossibility of

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[244] Book Five: the motion of the stars (5.509–525), the emission of a large quantity of light by sun (5.592–613), the courses of the stars (5.614–649), night (5.650–655), dawn (5.656–679), increasing and diminishing length of day and night (5.680–704), the shining of the moon (5.705–750), and eclipses (5.751–771). Book Six: thunder, lightning, and thunderbolts caused in some way by clouds (6.96–159, 6.160–218, 6.246ff.), waterspouts by wind (6.423–450), clouds by a gathering of entangled flying bodies (6.451–494), rain by seeds of water in the clouds (6.495–523), rainbow by sun shining on rain (6.524–526), snow, wind, hail, frost, and ice similarly (6.527–534), earthquakes by the movements in hollow caverns beneath the earth (6.535–607), etc.

[245] 3.59–86.

[246] 3.177–207.

[247] 3.208–230.

[248] 3.370–395.

divine influence on our world and the mortality of the soul. In addition to this, Lucretius' attacks on traditional religion are based on the fact that it causes unacceptable acts. The important status of this particular question explains why it is amongst the arguments from cause and effect that we meet some of the most moving passages in the poem, such as the sacrifice of Iphigenia, the cow's search for her calf, and the fanned flame of the love of Paris that eventually consumes the whole city of Troy. In each of these passages, Lucretius uses poetic diction to arouse pathos and thus enhance the force of his argument. His vivid descriptions of the detrimental effects of the ignorance of physics on human behavior have a similar function. The emphasis that *DRN* puts on the importance of the rational principles of explanation on one hand, and the detrimental nature of explanations offered by religion on the other, reflects the attitude we see in Epicurus' repetitive insistence on both points in his *Letter to Pythocles*.[249]

Arguments From Comparison

Cicero explains that a comparison can be made between things that are bigger, smaller, or equal. The important categories of this *locus* are quantity, kind, force, and a certain relationship to some things. Each of the categories of comparison is divided into a number of *loci* based on generally held views. In respect of quantity, a greater number of good things is preferred to a smaller, a smaller number of bad things is preferred to a greater; longer-lasting goods are preferred to those that last for less time; *et sim.* With respect to kind, things that are sought for their own sake are preferred to those sought for the sake of something else; those that are inborn and ingrained are preferred to those that are acquired and external; *et sim.* With respect to force, an efficient cause has more weight than a non-efficient cause; what is self-sufficient is better than what requires help from other things; *et sim.* Regarding the relationship to other things, things advantageous to the leaders are more important than those advantageous to the rest; *et sim.* Comparison on the basis of equality does not involve the notions of 'superior' and 'inferior'.[250]

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[249] E.g., *Pyth.* 104 and 116.
[250] *Top.* 68–71.

Even a cursory look at Cicero's list of generally held views brings to light the striking resemblance between these generally accepted principles and the values of Epicurean ethics. For example, under the heading of kind, we read that pleasant things are preferred to unpleasant, readily available things to those that require effort, necessary things to those that are unnecessary, what is natural over what is unnatural. It is inevitable that Lucretius' treatment of ethical issues will be based on such *loci* as these.

For example, readily available things are preferred to those that require effort. In the introduction to Book Two, Lucretius introduces the Epicurean view that bodily nature needs altogether only a few things that remove pain and bring pleasure:

> *Ergo corpoream ad naturam pauca uidemus*
> *esse opus omnino, quae demant cumque dolorem,*
> *delicias quoque uti multas substernere possint*; (2.20–22)

> Therefore we see that few things altogether are necessary for the bodily nature, only such in each case as take pain away, and can also spread for our use many delights.

In order to provide an illustration for the view, the poet first paints a Homeric scene (including an imitation of *Odyssey* 7.100–102) in which we find artificial luxuries that nature does not really need.[251] The scene that immediately follows brings before the eye the contrasting satisfaction of necessary pleasures readily available in the simplicity and natural setting of a *locus amoenus*:

> *cum tamen inter se prostrati in gramine molli*
> *propter aquae riuum sub ramis arboris altae*
> *non magnis opibus iucunde corpora curant,*
> *praesertim cum tempestas adridet et anni*
> *tempora conspergunt uiridantis floribus herbas.*[252] (2.29–33)

> When all the same stretched forth in groups upon the soft grass beside a rill of water under the branches of a tall tree men merrily refresh themselves at no great cost, especially when the weather smiles, and the season of the year besprinkles the green herbage with flowers.

Next, necessary things are preferred to those that are unnecessary. In the introduction to Book Five, Lucretius compares the discoveries of Epicurus to the gifts of Ceres and Bacchus, and the labors of Hercules.

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[251] Cf. above, p. 44.
[252] Schrijvers 1970, 206–209 interprets the comparison as a case of *amplificatio per comparationem*, referring to Quint. *Inst.* 8.4.9.

The comparison occurs as a part of a standard epideictic eulogy. Ceres and Liber gave to mankind grain and wine, but these things are not necessary for life; Epicurus, on the other hand, bestowed on mankind the gift of a purified mind, which is a necessary condition of the good life:

at bene non poterat sine puro pectore uiui;
quo magis hic merito nobis deus esse uidetur,
ex quo nunc etiam per magnas didita gentis
dulcia permulcent animos solacia uitae. (5.18–21)

But good life was impossible without a purged mind; which makes him [sc. Epicurus] seem to us with better reason a god, from whom even now spreading abroad through great nations come sweet consolations of life to soothe our minds.

How could the deeds of Hercules, the Stoic hero, compete with the achievements of Epicurus? Hercules' labors are disparaged in a long series of rhetorical questions, enumerating many of the victories of the hero—the Nemean lion and the Erymanthian boar, the Cretan bull and the Lernaean hydra, Geryones, the Stymphalian birds, the horses of Diomedes, the dragon from the garden of Hesperides.[253] Lucretius explains that all these monsters inhabited inaccessible places, which one could have avoided, just as now we are able to avoid the places where wild beasts live.[254] His praise of the achievements of Epicurus, on the other hand, brings a shorter list of exclamations and rhetorical questions.[255] Epicurus' victory is described as a victory over much more dangerous monsters, the deadly sins such as greed, pride, lust, impudence, luxury, and sloth. These beasts did not live afar; they lived in our very hearts, tearing them apart and butchering them. This type of argument and its elaboration is well attested in later popular philosophical discourse: Epictetus concludes his praise of Chrysippus with a comparison between Triptolemus as the inventor of food and Chrysippus as the inventor of happiness.[256]

The preceding passage contains the protreptic idea that the goods provided by philosophy are to be preferred to worldly goods. We find the same idea in the following two passages. In Book One, in his eulogy of Empedocles, Lucretius amplifies his praise of the philosopher's place

[253] 5.24–38.
[254] 5.39–42.
[255] 5.43–51, see above, pp. 2–3.
[256] 1.4.28–32.

of birth and creates a vivid description of the natural wonders of the island of Sicily.[257] His memorable *ecphrasis* is rounded off by the following lines:

quae cum magna modis multis miranda uidetur,
gentibus humanis regio uisendaque fertur,
rebus opima bonis, multa munita uirum ui,
nil tamen hoc habuisse uiro praeclarius in se
nec sanctum magis mirum carumque uidetur.
carmina quin etiam diuini pectoris eius
uociferantur et exponunt praeclara reperta
ut uix humana uidetur stirpe creatus. (1.726–733)

Which mighty region, while it seems wonderful in many ways to the nations of mankind and is famed as a place to see, fat with good things, fortified with mighty store of men, yet it seems to have contained in it nothing more illustrious than this man, nor more sacred and wonderful and dear. Moreover, the poems of his divine mind utter a loud voice and declare illustrious discoveries, so that he seems hardly to be born of mortal stock.

The fabulous natural wealth of the region, underscored by alliterations, is overshadowed by the divine figure of Empedocles, whose unusual nature is described by an unusual concentration of epithets in a heavily spondaic line (730).

Similarly, the opening of Book Six presents us with the glory of Athens, the city that gave to the rest of humankind the gifts of crops and laws. The sense of grandeur of the subject is conveyed by epic diction. But the opening lines are used only as a foil for the glory of Epicurus, whose oracles brought salvation to human kind:

Primae frugiparos fetus mortalibus aegris
dididerunt quondam praeclaro nomine Athenae
et recreauerunt uitam legesque rogarunt,
et primae dederunt solacia dulcia uitae,
cum genuere uirum tali cum corde repertum
omnia ueridico qui quondam ex ore profudit;
cuius et extincti propter diuina reperta
diuolgata uetus iam ad caelum gloria fertur. (6.1–8)

It was Athens of illustrious name that first in former days spread abroad the corn bearing crops amongst suffering mankind; Athens bestowed on them a new life and established laws; Athens first gave the sweet consolations of life, when she brought forth a man endowed with such

[257] 1.716–725. Schrijvers 1970, 264–265 adduces Ps.-Longinus 35, where such marvels of nature as eruptions of Etna are said to be the best source of admiration.

wisdom, who in past days poured forth all revelations from truth-telling lips; whose glory, though his light is quenched, on account of his divine discoveries has been long since published abroad and is now exalted to the skies.

Comparisons may also be a ground for conclusions *a fortiori*. In Book Three, the certainty of death is proven by a lengthy consolatory memento stating that even such great leaders as Ancus Marcius, Xerxes, and Scipio Africanus died, that the scientists and poets, such as Homer and Democritus, also died, and that even Epicurus, the brightest star of them all, eventually died. It is foolish to think that a much inferior man can avoid death.[258] This type of consolation is common in popular philosophy; Lucretius' individual treatment of the famous generals and philosophers is distinguished by traits of high poetic register—mostly epic and tragic diction.[259]

In dealing with physical explanations arguments from comparison are used less frequently than in epideictic passages. Mostly they prove *a fortiori* the high degree of a certain quality. In Book Three, for example, Lucretius concludes that dispersion of the spirit must be very quick, for we see that water disperses quickly after the vessel is broken. The particles of spirit are much finer than those of water, and their dissipation after death must be much quicker:

quippe etenim corpus, quod uas quasi constitit eius,
cum cohibere nequit conquassatum ex aliqua re,
ac rarefactum detracto sanguine uenis,
aere qui credas posse hanc cohiberier ullo
corpore qui nostro rarus magis incohibescit? (3.440–444)

In fact if the body, which is in a way its vessel, cannot contain it, when once broken up by any cause and rarefied by the withdrawal of blood from the veins, how could you believe that it could be contained by any air, which is a more porous container than our body?

In Book Four, the extreme fineness of the particles that make images is explained through comparison with animals that are so tiny that a third part of their body could not be seen:

horum intestinum quoduis quale esse putandumst?
quid cordis globus aut oculi? quid membra? quid artus?
quantula sunt? quid praeterea primordia quaeque

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[258] 3.1024–1053.
[259] See the detailed analysis in Conte 1966, 119–129 (who compares the passage with Marcus Aurelius 3.3). Cf. Wallach 1976, 91–97.

unde anima atque animi constet natura necessumst?
nonne uides quam sint subtilia quamque minuta? (4.118–122)

> What must you suppose one of their guts is like? the ball of the heart, or the eyes? the limbs and members? How small are they? What further of the first-beginnings which must compose the nature of their mind and spirit? Do you not see how fine and how minute they are?

A little later, the speed with which images move is compared to the speed of light. The comparison leads to the conclusion that the speed of images must be much greater than that of light:

Praeterea si quae penitus corpuscula rerum
ex altoque foras mittuntur, solis uti lux
ac uapor, haec puncto cernuntur lapsa diei
per totum caeli spatium diffundere sese
perque uolare mare ac terras caelumque rigare,
quid quae sunt igitur iam prima fronte parata,
cum iaciuntur et emissum res nulla moratur?
quone uides citius debere et longius ire
multiplexque loci spatium transcurrere eodem
tempore quo solis peruolgant lumina caelum? (4.199–208)

> Besides, if those particles of things that are sent forth from their depths, like the sun's light and heat, are observed to glide and diffuse themselves abroad in a moment of time through the whole space of heaven, to fly over the sea and land and to flood the sky, what then of those which are ready on the very outside, when they are cast off and nothing impedes their discharge? Do you not see that they must travel so much the faster and harder, and run over many times the space in the same time as the sun's light takes to spread abroad over the sky?

In each of the three examples amplification is achieved through the use of rhetorical questions.

We have seen that the arguments from comparison in *DRN* are very common in protreptic passages, but also present in the treatment of the questions of physics. The examples of the passages that treat ethical questions and those that treat physical questions show that arguments from comparison in *DRN* have one major role, namely, to shape a relief that will pronounce the high degree of a certain quality in a person or a thing. The person or thing displaying a certain quality in the highest degree appears at the end, capping the preceding examples. These arguments never appear in a bare logical form. In addition to the effect of capping produced by skillful arrangement, they are amplified by various means—epic quotation, a pastoral scene (*locus amoenus*), epic and tragic diction, *ecphrasis*, or rhetorical question.

Loci *and the Composition of* DRN

In the preceding discussion I used Cicero's adaptation of the Aristotelian system of τόποι as an analytical tool. The goal of my analysis was to show that the argumentative techniques in *DRN* can be easily and naturally explained in terms of the categories of rhetorical argumentation, and that the aesthetic features of the poem enhance the visibility of its logical structure. In conclusion, I would like to discuss the role of *loci* in the composition of the poem, and the question of Lucretius' debt to Epicurus.

The purpose of Cicero's *Topica* was to facilitate rhetorical invention, providing the arguments which might be used in a given judicial case. Cicero's source is Aristotle, and some of his *loci* came from Aristotle's *Rhetoric*, while others came from *Topics*. For Aristotle, τόποι were the sources of both rhetorical enthymemes and dialectic syllogisms, and could be employed for both heuristic and testing purposes. Aristotle cultivated the practice of dialectical exercises and taught rhetoric. He made τόποι a very important part of philosophical training, and regarded rhetorical argumentation as an important skill in scientific research. As I pointed out in the introduction, Aristotle did not think that scientific knowledge alone was sufficiently clear to laymen, unless it was presented within the construct of commonly accepted views.[260] Thanks to Aristotle teaching rhetoric became a standard practice in the Peripatetic school and the Academy. The idea reached Rome through Philo of Larissa, the head of the Academy, under whose influence Cicero developed his concept of philosophical rhetoric.[261] Hence Cicero's interest in the *Topics*, and his frequent remarks about the use of certain *loci* in philosophy.

E. Asmis suggested that, in treating each segment of the poem as a general question in rhetorical training (θέσις), Lucretius anticipated Cicero's ideal of philosophical rhetoric.[262] The proposed view is generally correct. In the first chapter of this study we have seen that the model of Lucretius' technique of composition can be seen already in the more elementary *chreia*, practiced in secondary education; the general question, θέσις, was a more advanced rhetorical exercise based on a similar procedure—the only difference being that in the *chreia* one

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[260] See above, p. 8.
[261] See Brittain 2001, 296–342.
[262] Asmis 1983, 50.

treated a *dictum*, while in the θέσις the subject of discussion was phrased as a question. Both types of exercise included argumentation *pro et contra*, and hence we see that Theon in his προγυμνάσματα treated τόποι under the heading of θέσις.[263] But while Asmis explained Lucretius' anticipation of Cicero's program as a result of the heavy influence of rhetorical theory on Lucretius,[264] I believe that Lucretius' practice consists of a conscious and systematic exploitation of the similarity of procedures employed in rhetorical argumentation and the argumentation of Epicurus.

Although it is difficult to draw conclusive inferences from the scant remains of Epicurus' *On Nature*, it is very likely that in his argumentation Epicurus dealt with one step at a time—in the second chapter of this study we noted his practice of marking the beginning and the ending of his treatment of a single topic with formulaic verbal phrases.[265] It is beyond a doubt that the patterns of argumentation that underlie Epicurus' discussion of particular topics provided a model for Lucretius. We have seen that Lucretius' arguments from analogy and arguments from contradiction are certainly grounded in Epicurus, and the remains of Epicurus' work provided parallels for almost all of the types of argumentation we examined in Lucretius. Therefore, it is not unreasonable to suggest that the argumentation of Epicurus, who had heard Aristotle's lectures, and had formed his philosophical system with an acute awareness of Aristotle's teaching, reflected to a certain extent the form of exposition and the types of arguments cultivated in the Lyceum. Lucretius' anticipation of Cicero's ideal would thus be due not to the external influence of the alien elements of oratory on the poet, but ultimately to the fact that the work of Epicurus reflected Aristotelian tradition. One might say that the essential affinity between philosophical and rhetorical argumentation was present already in Epicurus, and that Lucretius only enhanced this trait.

Seen in the light of argumentative *loci*, Lucretius' technique of composition might be explained as follows. Taking the propositions and the main supporting arguments given by Epicurus—most probably in his *On Nature*[266]—the poet developed them into more elaborate sections,

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[263] Theon *Prog.* 121.27–123.3 Spengel.

[264] "Lucretius… has fashioned the philosophical doctrines of Epicurus into unified essays which are heavily influenced by contemporary rhetorical theory" (Asmis 1983, 51).

[265] Above, pp. 67 and 74.

[266] See above, p. 11.

converting the *loci* of Epicurus' philosophical discussion into their primordial poetic forms. It is difficult to determine in each particular case the exact level of execution at which the poet takes over the argument from Epicurus and marks it with the σφραγίς of his own elaboration. However, it is certain that this happens at some point within each segment of Lucretius' argumentation. Thus for instance the argument from contradiction that proves that nothing can arise out of nothing was beyond a doubt Epicurus', but it is also quite certain that many of the supporting arguments and amplifications we saw in Lucretius' text, such as lines 1.250–261, represent the original development of the poet. Lucretius' deep understanding of both Epicurus' physics and the techniques of poetic composition made the meeting point of the two in his poem difficult to discern. It is important to keep in mind that Lucretius' poetic activity often reflects even the stylistic features in Epicurus' prose, for example particular tropes and figures (metaphors, rhetorical questions, *correctio*).

As we have already pointed out, Lucretius' full activation of the rhetorical potential of Epicurus' arguments is a result of the poet's search for both the most convincing form of expression and the form of expression most suitable for internalization. In this search the poet pursued the guidelines provided by Epicurus to the extreme point of reproducing Epicurus' philosophy, based on commonly accepted truths, with the devices normally used for the construction of poetic truth. The tools of Lucretius' trade are traditional poetic techniques, usually associated with the diction and imagery of epic poetry and tragedy—metaphors, similes, proverbs, puns, the rhythm and the sound of the words. In epic or tragic poetry, these techniques create poetic fiction; in *DRN*, they drive scientific explanations home.

OUTLOOK

THE RHETORIC OF EXPLANATION IN *DRN*

Having opened this study with the uncontroversial claim that Lucretius' project was a continuation of Epicurus' campaign to liberate humanity from harmful misconceptions nourished by traditional religion, I suggested that Lucretius, taking his mission over from Epicurus, absorbed his teacher's main rhetorical strategies as well. In the remaining part of the study I tested this proposition discussing some of the most prominent rhetorical strategies in *DRN*. The discussion was certainly not exhaustive, but I hope that it provided a clearer insight into the way in which Lucretius' rhetorical strategies build upon the main rhetorical strategies of the work of Epicurus. In conclusion, I would like to place this study in a wider context by addressing the question of the ultimate role of the rhetorical elements I traced in the preceding chapters.

According to my wide definition of rhetoric,[1] each text can be labeled as rhetorical in one way or another. The *differentia specifica* of Lucretius' rhetoric, or the rhetoric of Epicurus, as opposed to the rhetoric of other texts, lies in the specific *purpose* for which the two authors used traditional techniques of text composition. Since my analysis shows that a number of rhetorical elements in *DRN* are not restricted to a single genre (they are universal categories, and may be used for constructing different kinds of texts), it is clear that it is only the *purpose* for which these elements are used that can make a useful distinction in determining the nature of particular text. This observation brings us back to the principal remarks made in this study. In one of Lucretius' passages adduced in the introduction we saw that the poet compared the words of Epicurus to weapons.[2] In my view, the weapon that Epicurus placed in the hands of his followers was *explanation*: the purpose of the rhetorical elements of Lucretius' poem we discussed up to now was to provide the reader with an effective explanation of the world.

[1] See above, p. 10.
[2] 5.43–54. Above, pp. 2–3.

Just like Homer's epic poems, and just like Aristotle's philosophical system, Epicurus' teaching is panoptic: it opens a view of the entire universe.[3] But unlike the poet, Epicurus did not wish to give his audience a short and temporarily pleasing glimpse of this view. He wished his followers to internalize the view, so that it becomes a permanent property of their mind. Lucretius also had this higher goal in front of his eyes. Seen as a means towards this goal, the rhetorical strategies I discussed in the preceding chapters have a twofold function: they help the author to articulate and communicate his explanations, and they help the reader to permanently internalize them. Thus the rhetorical elements used for the purpose of explanation in *DRN* also function as *cognitive* and *mnemonic aids* for the reader. This absolutely essential function of rhetorical techniques[4] was exploited by Lucretius in a systematic way, conjoining his authorship and the reception of the audience within the frame of a common task. The mnemonic effects of Lucretius' rhetorical strategies are not limited exclusively to the poet's communication of Epicurean messages to his audience: finding the best way of communicating knowledge is the best way of learning, and the process of the composition of the poem could at the same time be regarded as a manner of the poet's own internalization of Epicurean philosophical system.

While Epicurus in his surviving letters gave something of a short catechesis, Lucretius' aim was to edify his reader with a massive armature of arguments. Each principle in *DRN* is amply discussed, and the poet constantly leaves the impression that an abundance of new proofs is available. He repeatedly stresses the exemplary nature of his explanations and expresses his wish to enable his student to use the acquired knowledge independently: throughout the poem the reader is invited to supply further examples on his own,[5] he is shown how to apply certain basic principles,[6] and how to dispel certain fears and passions by contemplation.[7] *DRN* is a poem on physics, but Lucretius wished to change his student's way of life, and scientific explanations offered

[3] Cf. Lucr. 1.62–79; 3.14–30.

[4] Cf. Hartlich 1889, 216 and Cole 1991, 71–79. Both pointed out that the main features of Gorgias' style should also be understood as mnemonic devices. Rhetorical techniques, such as *amplificatio* (through division in parts or through comparison) or *euidentia*, shape the *exercitia spiritualia* of Ignatius de Loyola (Rabbow 1954, 55–90).

[5] E.g., 1.398–417, 1.1114–1117, 2.677–679.

[6] E.g., 4.572–594, 5.1281–1296, 6.527–534.

[7] E.g., 3.1024, 4.1063–1072.

in the poem are just display patterns of the reasoning process which will bring the change about: the process itself must be performed by the reader's mind. The poem as a whole can also be described as an unusually well argued and documented act of moral exhortation, i.e., as a piece composed in the vein of the epideictic genre—the oldest genre, the one closest to poetry, and the only genre of rhetoric that Epicurus might have approved.[8]

Lucretius' Epicurean edifice is a highly hierarchical and rich structure, and yet reducible to the simple principle of the movement of atoms in void. This type of architecture has intriguing parallels in some of the more recently developed scientific systems. For example, Epicurus' and Lucretius' account of human evolution foreshadows that of Charles Darwin.[9] Darwin's *The Origin of Species* itself is a complex work supported by numerous empirical data, and yet promoting an essentially reductive view: the entire process of evolution can be explained by the principles of variation and natural selection. Or, to make another comparison, many of Epicurus' and Lucretius' views foreshadow the principles on which Sigmund Freud based his psychoanalysis.[10] Freud's main works, *The Psychopathology of Everyday Life* and *The Interpretation of Dreams*, present an abundance of cases of psychological disorders. In the course of his discussion of these cases Freud gradually refines an essentially reductive explanatory account of the problems of human psyche: all such problems are caused by the repression of desires to the realm of unconscious.

Just like Epicurus and Lucretius, Darwin and Freud showed concern about the ethical consequences of the results of their scientific discoveries.[11] The direct connection between science and ethics, so important for the understanding of post-Socratic philosophy, still characterizes scientifically grounded modern explanatory systems, even if it does not directly motivate them. Perhaps the closest modern parallel to the teaching of Epicurus in terms of the connection between the results of scientific research and ethics can be found in the teaching of Karl Marx. Just like Epicurus, Marx armed his followers with a universal explanation, namely the principle of the struggle of classes, to which

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[8] See above, pp. 8–9.

[9] Cf. Ep. *Her.* 75–76 and Lucr. 5.772–1457.

[10] E.g., Lucr. 3.978–1023 and 4.962–1036.

[11] Darwin withheld the publication of his results until the last moment on account of his concern for the effect they might have on the *ethos* of the audience. Freud's later work was devoted to the questions of culture and ethics.

the entire mechanism of historical development can be reduced. Marx's teaching explicitly placed scientific materialism in the service of ethical goals. As he himself put it in his *Theses on Feuerbach*, "the philosophers have only explained the world, but the point is to change it".

Due to their potential for affecting changes on the way of life, both psychoanalysis and Marxism had a considerable influence on modern art. In a similar way, Lucretius' enthusiastic presentation of Epicurus' scientific teaching in a most elaborate literary form was motivated precisely by the fact that this teaching had consequences in the field of ethics. No value-neutral philosophy could produce a *DRN*. Thus it is clear that Epicurus' and Lucretius' explanations do not constitute ultimate goals; they are merely tools, meant to cause a substantial and permanent change in the mind of the reader. This is where their rhetorical nature lies. The logical or scientific validity of these explanations is important because they must convince the reason, i.e., the force that has the power to effect the desired change, to accept certain conclusions. Once this is achieved, scientific inquiry is completed. Thus, for example, Epicurean accounts of certain natural phenomena do not go beyond the limit of clarifying their material nature.[12]

The ultimate goal of Epicurus' and Lucretius' rhetoric of explanation was to change the life of the individual. The urgency of this goal marked Lucretius' poem with a pervasive rhetorical feel. Rhetorical techniques are still used for the transmission of knowledge, but in modern scholarship devotion to particular ethical goals is no longer a matter of central importance. In order to find the enthusiasm of Lucretius' lectures today, we must look in the sermons of religious preachers or revolutionaries. But as long as we are human, as long as we perceive the connection between scholarly knowledge and ethical goals, the works of Epicurus and Lucretius will remain among the most important documents of our intellectual history.

[12] E.g., Epicurus in his *Letter to Pythocles* and Lucretius in Book Six simply indicate a number of possible explanations of celestial phenomena.

BIBLIOGRAPHY

Texts, Translations, Commentaries

Collections

Aubreton, R. *Anthologie grecque. Première partie: Anthologie palatine, X: Livre XI, Collection G. Budé* (Paris, 1972).

Diels, H., and Walther K. *Die Fragmente der Vorsokratiker*. 6 ed. 3 vols. (Berlin, 1951–1952).

Keil, H. *Grammatici Latini*. 8 vols. (Leipzig, 1855–1880).

Funaioli, G. *Grammaticae Romanae fragmenta, Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Leipzig, 1907).

Sedley, D.N., and A.A. Long. *The Hellenistic Philosophers, I: Translations of the Principal Sources with Philosophical Commentary* (Cambridge, 1987).

———. *The Hellenistic Philosophers, II: Greek and Latin Texts* (Cambridge, 1987).

Spengel, L. von. *Rhetores Graeci*. 3 vols, *Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Lipsiae, 1853–1856).

Usener, H. *Epicurea* (Leipzig, 1887).

West, M.L. *Iambi et elegi Graeci ante Alexandrum cantati, II: Callinus, Mimnermus. Semonides, Solon, Tyrtaeus, Minora adespota*. 2 ed. (Oxford, 1992).

Individual Authors

Aratus

Kidd, D.A. *Aratus: Phaenomena, Cambridge Classical Texts and Commentaries 34* (Cambridge, 1997).

Aristoteles

Biehl, W. *Aristotelis Parva naturalia, Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Lipsiae, 1898).

Brunschwig, J. *Aristote. Œuvres. Topiques, livres I–IV, Collection G. Budé* (Paris, 1967).

Forster, E.S. *Aristotle. On Coming-To-Be & Passing-Away, Loeb Classical Library* (Cambridge Mass., 1965).

Kassel, R. *Aristotelis De arte poetica liber, Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1988).

Kassel, R. *Aristotelis Ars rhetorica* (Berlin, 1976).

Ross, W.D. *Aristotelis De anima, Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1956).

———. *Aristotelis fragmenta selecta, Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1955).

[Aristoteles]

Chiron, P. *Pseudo-Aristote: Rhétorique à Alexandre, Collection des universités de France. Série grecque 416* (Paris, 2002).

Athenaeus

Gulick, Ch.B. *Athenaeus. The Deipnosophists.* 7 vols, *The Loeb Classical Library 204* (Cambridge Mass., 1927).

Callimachus

Pfeiffer, R. *Callimachus. Volumen I: Fragmenta* (Oxonii, 1949).

Cicero

Epistulae

Shackleton Bailey, D.R. *M. Tullius Cicero. Epistulae ad Atticum.* 2 vols, *Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Stuttgart, 1987).

Shackleton Bailey, D.R. *Cicero. Epistulae ad familiares, I: 62–47 BC, Cambridge Classical Texts & Commentaries 16* (Cambridge, 1977).

Orationes

Bornecque, H., and É. Bailly. *Cicéron. Discours. Tome X: Catilinaires, Collection G. Budé* (Paris, 1926).

Boulanger, A. *Cicéron. Discours. Tome VII: Pour M. Fonteius; Pour A. Cécina; Sur les pouvoirs de Pompée, Collection G. Budé* (Paris, 1929).

Boyancé, P. *Cicéron. Discours. Tome VIII: Pour Cluentius, Collection G. Budé* (Paris, 1953).

de La Ville de Mirmont, H. *Cicéron. Discours. Tome II: Pour M. Tullius; Discours contre Q. Caecilius, dit "La divination"; Première action contre C. Verrès; Seconde action contre C. Verrès, livre 1: La préture urbaine, Collection G. Budé* (Paris, 1922).

Philosophica

Bréguet, E. *Cicéron: La république, Collection G. Budé* (Paris, 1980).

Dougan, T.W., and R.M. Henry. *M. Tulli Ciceronis Tusculanarum disputationum libri quinque.* 2 vols. (Cambridge, 1905–1934).

Pease, A.S. *M. Tulli Ciceronis De natura deorum.* 2 vols. (Cambridge Mass., 1955–1958).

Reid, J.S. *M. Tulli Ciceronis Academica* (London, 1885).

Reynolds, L.D. *M. Tulli Ciceronis De finibus bonorum et malorum libri quinque, Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1998).

Winterbottom, M. *M. Tulli Ciceronis De officiis, Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1994).

Rhetorica

Reinhardt, T. *Marcus Tullius Cicero. Topica, Oxford Classical Monographs* (Oxford, 2003).

Wilkins, A.S. *M. Tulli Ciceronis rhetorica.* 2 vols, *Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1902–1903).

[Cicero]

Calboli, G. *Cornifici Rhetorica ad C. Herennium.* 2nd ed, *Edizioni e saggi universitari di filologia classica* 11 (Bologna, 1993).

Caplan, H. *[Cicero]: Rhetorica ad Herennium, Loeb Classical Library 403* (Cambridge, 1954).

Claudianus

Hall, J.B. *Claudianus. Carmina, Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Leipzig, 1985).

Demetrius

Chiron, P. *Démétrios: Du style, Collection G. Budé* (Paris, 1993).

Diogenes Laertius

Hicks, R.D. *Diogenes Laertius: Lives of Eminent Philosophers*. 2 vols, *Loeb Classical Library 184–185* (Cambridge Mass., 1925).

Diogenes Oenoandensis

Smith, M.F. *Diogenes of Oinoanda: The Epicurean Inscription, La Scuola di Epicuro, Supplemento* 1 (Napoli, 1993).

Dionysius Halicarnassensis

Aujac, G., and M. Lebel. *Denys d'Halicarnasse: Opuscules rhétoriques. Tome III: La composition stylistique, Collection G. Budé* (Paris, 1981).

Aujac, G. *Denys d'Halicarnasse. Opuscules rhétoriques, Tome II: Démosthène, Collection G. Budé* (Paris, 1988).

Dionysius Thrax

Lallot, J. *La grammaire de Denys le Thrace, Sciences du langage* (Paris, 1998).

Empedocles

Inwood, B. *The Poem of Empedocles: A Text and Translation with an Introduction, Phoenix Suppl.* 39 (Toronto Ont., 2001).

Wright, M.R. *Empedocles: The Extant Fragments* (New Haven, 1981).

Ennius

Jocelyn, H.D. *The Tragedies of Ennius, Cambridge Classical Texts & Commentaries* 10 (Cambridge, 1967).

Skutsch, O. *The Annals of Q. Ennius* (Oxford, 1984).

Vahlen, J. *Ennianae poesis reliquiae* (Lipsiae, 1903).

Epictetus

Oldfather, W.A. *Epictetus. The Discourses as Reported by Arrian; The Manual; The Fragments*. 2 vols, *Loeb Classical Library 131, 218* (Cambridge, Mass., 1925).

Epicurus

Arrighetti, G. *Epicuro: Opere*. 2nd ed, *Biblioteca di cultura filosofica* 41 (Torino, 1973).

Bailey, C. *Epicurus. The Extant Remains* (Oxford, 1926).

Sedley, D.N. "Epicurus, *On Nature* Book XXVIII." *CronErc* 3 (1973) 5–83.

Euripides

Kannicht, R. *Tragicorum Graecorum Fragmenta 5: Euripides* (Göttingen, 2004).

Kannicht, R., and B. Snell. *Tragicorum Graecorum Fragmenta 2* (Göttingen, 1977).

Heraclitus

Marcovich, M. *Heraclitus: Greek Text with a Short Commentary* (Mérida, Venezuela, 1967).

Hesiodus

West, M.L. *Hesiod: Works and Days*. Oxford: Clarendon, 1978.

———. *Hesiod: Theogony* (Oxford, 1966).

Homerus

Allen, Th.W. *Homeri Opera. Tomus IV, Odysseae libros XIII–XXIV continens* (Oxonii, 1919).

West, M.L. *Homeri Ilias. Volumen prius: Rhapsodiae I–XII*, *Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Leipzig, 1998).

Horatius

Borzsák, I. *Q. Horati Flacci Opera*, *Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Leipzig, 1984).

Isidorus

Lindsay, W.M. *Isidori Hispalensis episcopi Etymologiarum sive Originum libri XX*, *Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1911).

Longinus rhetor

Patillon, M., and L. Brisson. *Longin: Fragments; Art rhétorique. Rufus: Art rhétorique*, *Collection Guillaume Budé, Série grecque, 413* (Paris, 2001).

Lucilius

Krenkel, W. *Lucilius. Satiren* (Leiden, 1970).

Lucretius

Bailey, C. *Titi Lucreti Cari De rerum natura libri sex* (Oxford, 1950^2).

Brown, R.D. *Lucretius on Love and Sex: A Commentary on De rerum natura IV, 1030–1287 with Prolegomena, Text and Translation*, *Columbia Studies in the Classical Tradition* (Leiden, 1987).

Brown, M.P. *Lucretius. De Rerum Natura I* (Bristol, 1984).

Ernout, A, and L. Robin. *Lucrèce, De Rerum Natura: Commentaire exégétique et critique, Collection G. Budé* (Paris, 1962^2).

Giancotti, F. *La natura: Introduzione, testo criticamente riveduto, traduzione e commento*, Milano, 1994.

Heinze, Richard. *De rerum natura Buch III* (Leipzig, 1897).

Kenney, E.J. *Lucretius, De rerum natura, Book III* (Cambridge, 1971).

Leonard, W.E., and S.B. Smith. *T. Lucreti Cari De rerum natura libri sex* (Madison, 1942).

Munro, H.A.J. *T. Lucreti Cari De rerum natura libri sex* (Cambridge, 1891^4).

Piazzi, L. *Lucrezio e i Presocratici: Un commento a De rerum natura 1, 635–920* (Pisa, 2005).

Smith, M.F., and W.H.D. Rouse. *Lucretius: De rerum natura*, *Loeb Classical Library* (Cambridge Mass., 1992^2).

Menander rhetor

Russell, D.A., and N.G. Wilson. *Menander Rhetor* (Oxford, 1981).

Nicander

Gow, A.S.F., and A.F. Scholfield. *Nicander: The Poems and Poetical Fragments* (Cambridge, 1953).

Jacques, J.-M. *Nicandre: Œuvres. Tome II: Les thériaques*, *Collection G. Budé* (Paris, 2002).

Ovidius

Tarrant, R.J. *P. Ovidi Nasonis metamorphoses*, *Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 2004).

Philodemus

De Lacy, Ph.H., and E.A. de Lacy. *Philodemus. On Methods of Inference* (Napoli, 1978).

Hausrath, A. *Philodemi* περὶ ποιημάτων *libri II fragmenta* (Lipsiae, 1889).

Hubbell, H.M. *The Rhetorica of Philodemus*, *Transactions of the Connecticut Academy of Arts and Sciences* 23, *pp. [243]-382* (New Haven, 1920).

Janko, R. *Philodemus. On Poems*, *Book 1* (Oxford, 2000).

Kemke, J. *Philodemi de musica librorum quae exstant*, *Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Lipsiae, 1884).

Konstan, D., D. Clay, C.E. Glad, J.C. Thom, and J. Ware. *Philodemus: On Frank Criticism* (Atlanta Ga., 1998).

Sudhaus, S. *Philodemi volumina rhetorica*, *Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Lipsiae, 1892–1896).

Pindarus

Maehler, H., and B. Snell. *Pindari carmina cum fragmentis, Pars I: Epinicia*, *Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Leipzig, 1987[8]).

Plato

Burnet, J. *Platonis opera*, *Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1905).

Dodds, E.R. *Plato. Gorgias* (Oxford, 1959).

Duke, E.A., W.F. Hicken, W.S.M. Nicoll, D.B. Robinson, and J.C.N. Strachan. *Platonis opera. Tomus 1, Tetralogias I–II continens*, *Scriptorum classicorum bibliotheca Oxoniensis* (Oxford, 1995).

Plautus

Lindsay, W.M. *T. Macci Plauti Comoediae*, *Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1904–1905).

Plutarchus

Babbitt, F.C. *Plutarch's Moralia in XV Volumes. Volume I*, *Loeb Classical Library* (Cambridge, Mass., 1927).

De Lacy, Ph., and Benedict E. *Plutarch's Moralia in XV Volumes. Volume XIV*, *Loeb Classical Library 428* (Cambridge, 1967).

Quintilianus

Cousin, J. *Quintilien. Institution oratoire, III: Livres IV–V*, *Collection G. Budé* (Paris, 1976).

———. *Quintilien. Institution oratoire, V: Livres VIII et IX*, *Collection G. Budé* (Paris, 1978).

———. *Quintilien. Institution oratoire, VI: Livres X et XI*, *Collection G. Budé* (Paris, 1979).

Russell, D.A. *Quintilian. The Orator's Education, Loeb Classical Library 124–127* (Cambridge Mass., 2001).

Servius
Thilo, G., and H. Hagen. *Servii Grammatici qui feruntur in Vergilii carmina commentarii* (Lipsiae, 1878–1902).

Stobaeus
Wachsmuth, C., and O. Hense. *Ioannis Stobaei Anthologium* (Berolini, 1884–1923).

Sextus Empiricus
Bury, R.G. *Sextus Empiricus, With an English Translation, Loeb Classical Library 273, 291, 311, 382* (Cambridge Mass., 1961).

Suetonius
Kaster, R.K. *C. Suetonius Tranquillus. De grammaticis et rhetoribus* (Oxford, 1995).

Suda
Adler, A.S. *Suidae Lexicon, Lexicographi Graeci: Volumen I* (Lipsiae, 1928–1938).

Aelius Theon
Patillon, M., and G. Bolognesi. *Aelius Théon. Progymnasmata, Collection des Universités de France. Série grecque 374* (Paris, 1997).

Tibullus
Luck, G. *Albii Tibulli aliorumque carmina.* 2nd ed, *Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Stutgardiae, 1998).

Varro
Kent, R.G. *Varro. On the Latin Language, Loeb Classical Library, 333–334* (Cambridge, Mass., 1938).

Vergilius
Mynors, R.A.B. *P. Vergili Maronis Opera, Scriptorum classicorum bibliotheca Oxoniensis* (Oxonii, 1972).
Sabbadini, R. *P. Vergili Maronis Opera* (Romae, 1937).

Other Works

Periodicals are abbreviated according to J. Marouzeau, *L'année philologique*.

Actes du VIIIe congrès de l'Association Guillaume Budé (Paris, 1969).
Algra, K.A., M.H. Koenen, and P.H. Schrijvers, eds., *Lucretius and his Intellectual Background* (Amsterdam, 1997).
Algra, K.A., P.W. van der Horst, and D.T. Runia, eds., *Polyhistor: Studies in the History and Historiography of Ancient Philosophy Presented to Jaap Mansfeld on His Sixtieth Birthday* (Leiden, 1996).
Armstrong, D., "Impossibility of Metathesis: Philodemus and Lucretius on Form and Content in Poetry." In Obbink 1995, 210–232.

Arrighetti, G., "L'épicureisme de Philodème et de Lucrèce face aux théories littéraires hellénistiques: Quelques problèmes," in Monet 2003, 137–146.
———, "Gli Epicurei, la poesia e Lucrezio," *Athenaeum* 86.1 (1998), 13–33.
———, "Lucrèce dans l'histoire de l'épicurisme: quelques réflexions," in Algra, Koenen, and Schrijvers 1997, 21–33.
Asmis, E., "Basic Education in Epicureanism," in Too 2001, 209–239.
———, "Rhetoric and Reason in Lucretius," *AJPh* 104 (1983), 36–66.
———, "Lucretius' Venus and Stoic Zeus," *Hermes* 110 (1982), 458–470.
Axelson, B., *Unpoetische Wörter: Ein Beitrag zur Kenntnis der lateinischen Dichtersprache* (Lund, 1945).
Bakker, E.J., *Grammar as Interpretation: Greek Literature in its Linguistic Contexts* (Leiden, 1997).
Bariè, E. et al., *Italia e Grecia; saggi su le civiltà e i loro rapporti attraverso i secoli* (Firenze, 1939).
Bartalucci, A., "Lucrezio e la retorica," in Studi classici in onore di Q. Cataudella, 45–83 (Catania, 1972).
Bignone, E., *L'Aristotele perduto e la formazione filosofica di Epicuro*. 2 vols. (Firenze, 1936, repr. 1973).
———, "Lucrezio come interprete della filosofia di Epicuro," in Bariè 1939, 121–139 (repr. in Bignone, *L'Aristotele perduto*, 1973, 379–402).
———, *Storia della letteratura latina*. 3 vols. (Firenze, 1945).
Blank, D., "Philodemus on the Technicity of Rhetoric," in Obbink 1995, 178–188.
Bollack, J., and A. Laks, eds. *Études sur l'épicurisme antique* (Lille, 1976).
Bosl, K., ed., *Gesellschaft. Kultur. Literatur. Rezeption und Originalität im Wachsen einer europäischen Literatur und Geistigkeit. Beiträge L. Wallach gewidmet.* (Stuttgart, 1975).
Boyancé, P., *Lucrèce et l'épicurisme.* Edited by P.-M. Schuhl, *Les grands penseurs.* (Paris, 1963).
———, *Le culte des muses chez les philosophes grecs: Études d'histoire et de psychologie religieuses* (Paris, 1937).
Brittain, Ch., *Philo of Larissa: The Last of the Academic Sceptics* (Oxford, 2001).
Bright, D.F., "The Plague and the Structure of *De rerum natura*," *Latomus* 30 (1971), 607–632.
Brown, R.D., "Lucretius and Callimachus," *ICS* 7 (1982) 77–97.
Büchner, K., "Über den Aufbau von Beweisreihen im Lukrez," *Philologus* 92 (1937), 68–82 (repr. in Classen 1986, 173–187).
Cairns, F., ed., *Greek and Roman Poetry. Greek and Roman Historiography*, (Cambridge, 2005).
———, "Ancient "Etymology" and Tibullus: On the Classification of "Etymologies" and on "Etymological Markers"," *PCPhS* 42 (1996), 24–59.
Calboli, G., "Lucrezio e la retorica," *Paideia* 58 (2003), 187–206.
Capasso, M., "Studi su Epicuro: parte seconda," in *Συζήτησις* 1983, 447–518.
Chafe, W.L., *Meaning and the Structure of Language* (Chicago, 1970).
Clarke, M.L., *Higher Education in the Ancient World* (London, 1971).
Classen, C.J., "Rhetoric and Literary Criticism: Their Nature and Their Function in Antiquity," *Mnemosyne* 48.5 (1995), 513–535.

———, *Probleme der Lukrezforschung* (Hildesheim, 1986).
———, "Poetry and Rhetoric in Lucretius," *TAPhA* 99 (1968), 77–118 (repr. in Classen 1986, 331–373).
Clay, D., "Lucretius' Honeyed Muse: The History and the Meaning of a Simile," in Monet 2003, 183–196.
———, *Paradosis and Survival: Three Chapters in the History of Epicurean Philosophy* (Ann Arbor, Mich., 1998).
———, "An Anatomy of Lucretian Metaphor," in Giannantoni and Gigante 1996, 779–793 (repr. in Clay 1998, 161–173).
———, "The Cults of Epicurus," *CronErc* 16 (1986), 11–28 (repr. in Clay 1998, 75–102).
———, *Lucretius and Epicurus* (Ithaca, 1983).
———, "Individual and Community in the First Generation of the Epicurean School," in *Συζήτησις*, 255–279, 1983 (repr. in Clay 1998, 55–74).
———, "Epicurus' Last Will and Testament," *AGPh* 55 (1973), 252–280 (repr. in Clay 1998, 3–31).
———, "De rerum natura. Greek Physis and Epicurean Physiologia (Lucretius 1.1–148)," *TAPhA* 100 (1969), 31–47 (repr. in Clay 1998, 121–137).
Cole, Th., *The Origins of Rhetoric in Ancient Greece, Ancient Society and History* (Baltimore, Md., 1991).
Commager, H.S., Jr., "Lucretius' Interpretation of the Plague," *HSCP* 62 (1957), 105–118.
Conte, G.B., "Instructions for a Sublime Reader: Form of the Text and Form of the Addressee in Lucretius," in *Genres and Readers*, 1–34, 1994.
———, "Insegnamenti per un lettore sublime," In *Tito Lucrezio Caro. La natura delle cose*, 7–65. (Milano, 1990).
———, "Proemi al mezzo," *RCCM* 18 (1976), 263–273.
———, "῞Υψος e diatriba nello stile di Lucrezio (De rer. nat. ii, 1–61)," *Maia* 18 (1966), 338–368.
———, "Il 'Trionfo della morte' e la galleria dei grandi trapassati in Lucrezio III, 1024–1053," *SIFC* 37 (1965), 114–132.
Cribiore, R. *Gymnastics of the Mind: Greek Education in Hellenistic and Roman Egypt* (Princeton, N.J., 2001).
———, "Literary School Exercises," *ZPE* 116 (1997), 53–60.
———, *Writing, Teachers, and Students in Graeco-Roman Egypt* (Atlanta, 1996).
Curtius, E.R., *Europäische Literatur und lateinisches Mittelalter*, 2nd ed. (Bern, 1954).
Dalzell, A., *The Criticism of Didactic Poetry: Essays on Lucretius, Virgil, and Ovid* (Toronto, Ont., 1996).
———, "Language and Atomic Theory in Lucretius," *Hermathena* 143 (1987), 19–28.
DeLacy, Ph., "Stoic Views on Poetry," *AJPh* 69.3 (1948), 241–271.
———, "The Epicurean Analysis of Language," *AJPh* 60 (1939), 85–92.
Deufert, M., *Pseudo-Lukrezisches im Lukrez: Die unechten Verse in Lukrezens De rerum natura* (Berlin, 1996).
Dionigi, I., *Lucrezio. Le parole e le cose* (Bologna, 1988).
Doreen, I., Hine, H. and Pelling, Ch. (eds), *Ethics and Rhetoric: Classical Essays for Donald Russel on his Seventy-Fifth Birthday* (Oxford, 1995).

Effe, B., *Dichtung und Lehre. Untersuchungen zur Typologie des antiken Lehrgedichts* (München, 1977).
Erler, M., "Physics and Therapy: Meditative Elements in Lucretius' 'De rerum natura'," in Algra, Koenen, and Schrijvers 1997, 79–92.
———, " "Philologia medicans": la lettura delle opere di Epicuro nella sua scuola," in *Epicureismo greco e romano*, 2.513–526 (Napoli, 1996).
———, "Lukrez," in Flashar-Ueberweg 1994, 4/1 381–490.
———, "Orthodoxie und Anpassung: Philodem, ein Panaitios des Kepos?" *MH* 49 (1992), 171–200.
Ernesti, J.Ch.G., *Lexicon technologiae Graecorum rhetoricae*, 2. Nachdruckausflage der Ausgabe Leipzig 1795 (Hildesheim, 1983).
———, *Lexicon technologiae Latinorum rhetoricae*. 2. Nachdruck der Ausgabe Leipzig 1797 (Hildesheim, 1983).
Fantham, E., *Comparative Studies in Republican Latin Imagery* (Toronto, 1972).
Farrington, B., *Science and Politics in the Ancient World* (London, 1939).
Ferguson, J., "Epicurean Language-Theory and Lucretian Practice," *LCM* 12.7 (1987), 100–105.
Flashar, H., and F. Ueberweg, *Die Philosophie der Antike*, Völlig neubearbeitete Ausgabe, *Grundriss der Geschichte der Philosophie* (Basel, 1983–).
Fogelmark, S., "Two Cases of ΑΔΥΝΑΤΟΝ: *AG.* 612 and Theodoridas *AP* XIII. 21," *HSPh* 79 (1975), 149–163.
Fowler, D.P., "From Epos to Cosmos: Lucretius, Ovid, and the Poetics of Segmentation," in Doreen, Hine, and Pelling 1995, 3–18.
Friedländer, P., *Studien zur antiken Literatur und Kunst* (Berlin, 1969).
———, "The Pattern of Sound and Atomistic Theory in Lucretius," *AJPh* 62 (1941), 16–34 (repr. in Friedländer 1969, 337–353 and in Classen 1986, 291–307).
Fuhrmann, M., *Das systematische Lehrbuch: Ein Beitrag zur Geschichte der Wissenschaften in der Antike* (Göttingen, 1960).
Furley, D.J., "Variations on Themes by Empedocles in Lucretius' Proem," *BICS* 17 (1970), 55–64.
Gale, M.R., "*Avia Pieridum loca*: Tradition and Innovation in Lucretius," in Horster and Reitz 2005, 175–191.
———, *Myth and Poetry in Lucretius* (Cambridge England, 1994).
Garbugino, G., "L'aggettivazione in Lucrezio," in Mantero 1987, 9–41.
Gernsbacher, M.A., *Language Comprehension as Structure Building* (Hillsdale, 1990).
Giannantoni, G., and M. Gigante, eds., *Epicureismo greco e romano: atti del congresso internazionale, Napoli, 19–26 maggio 1993* (Napoli, 1996).
Giancotti, F., *Religio, natura, voluptas: studi su Lucrezio con un'antologia di testi annotati e tradotti* (Bologna, 1989).
———, *Il preludio di Lucrezio e altri scritti lucreziani ed epicurei. Biblioteca di cultura contemporanea 63*. Messina; Firenze: G. D'Anna, 1978.
———, *Il preludio di Lucrezio* (Firenze, 1959, repr. in Giancotti 1978, 3–328).
Gigante, M., *Filodemo in Italia* (Firenze, 1990).
———, *Ricerche philodemee* (Napoli, 1983).
———, "Philosophia medicans in Filodemo," *CronErc* 5 (1975), 53–61.

Gignon, O., ed., *Lucrèce. Huit exposés suivis de discussions* (Vandœuvres–Genève, 1978).

Glad, C.E., *Paul and Philodemus: Adaptability in Epicurean and Early Christian Psychagogy* (Leiden, 1995).

Gottschalk, H.B., "Philosophical Innovations in Lucretius?" in Algra, van der Horst and Runia 1996, 231–240.

Griffin, M., and J. Barnes, eds., *Philosophia togata: Essays on Philosophy and Roman Society* (Oxford, 1989).

Hadot, I., "Épicure et l'enseignement philosophique hellénistique et romain," in *Actes du VIIIe congrès de l'Association Guillaume Budé* 1969, 347–354.

Hardie, Ph.R., *The Epic Successors of Virgil: A study in the Dynamics of a Tradition* (Cambridge, 1993).

———, *Vergil's Aeneid. Cosmos and Imperium* (Oxford, 1986).

Hartlich, P., "De exhortationum a Graecis Romanisque scriptarum historia et indole," *Leipziger Studien* 11 (1889), 209–336.

Hellegouarc'h, J., "Fabricator poeta: existe-t-il une poésie formulaire en Latin?" *REL* 62 (1984), 166–191.

Hock, R.F., and E.N. O'Neil, *The Chreia and Ancient Rhetoric: Classroom Exercises* (Leiden, 2002).

Holmes, B., "Daedala Lingua: Crafted Speech in *De Rerum Natura*," *AJPh* 126.4 (2005), 527–585.

Holst, H., *Die Wortspiele in Cicero's Reden* (Oslo, 1925).

Horster, M., and Ch. Reitz, eds. *Wissensvermittlung in dichterischer Gestalt* (Stuttgart, 2005).

Ingalls, W.B., "Repetition in Lucretius," *Phoenix* 25 (1971), 227–236.

Jacobson, H., "Lucretius 1.34," *Eranos* 68 (1970), 233–236.

Jocelyn, H.D., "The Poems of Quintus Ennius," in *ANRW* 1, 987–1026 (Berlin, 1972).

———, *The Tragedies of Ennius* (Cambridge, 1967).

Kaiser, E., "Odyssee-Szenen als Topoi," *MH* 21 (1964), 109–136 & 97–224.

Kennedy, D., "Making a Text of the Universe: Perspectives on Discursive Order in *De Rerum Natura* of Lucretius," in Sharrock and Morales 2000, 205–225.

Kennedy, G.A., *Progymnasmata: Greek Textbooks of Prose Composition and Rhetoric* (Leiden, 2003).

———, *The Art of Persuasion in Greece* (Princeton, N.J., 1963).

Kenney, E.J., "VIVIDA VIS: Polemic and Pathos in Lucretius 1.62–101," in West and Woodman 1974, 18–30.

———, "Doctus Lucretius," *Mnemosyne* 23 (1970), 366–392 (repr. in Classen 1986, 237–265).

Kleve, K., "Lucretius and Philodemus," in Algra, Koenen, and Schrijvers 1997, 49–66.

———, "Lucretius in Herculaneum," *CronErc* 19 (1989), 5–28.

———, "What Kind of Work did Lucretius Write?" *SO* 54 (1979), 81–85.

———, "The Philosophical Polemics in Lucretius," in Gignon 1978, 39–71 (Genève, 1978).

Kranz, W., *Studien zur antiken Literatur und ihrem Fortwirken. Kleine Schriften* (Heidelberg, 1967).

——, "Zwei Euripideische Chorlieder in lateinischem Gewande," *Hermes* 64 (1929), 497–500 (repr. in Kranz 1967).

Kühner, R., and C. Stegmann, *Ausführliche Grammatik der lateinischen Sprache. Zweiter Teil: Satzlehre* 5th ed. 2 vols. (Hannover, 1982).

Kullmann, W., "Zu den historischen Voraussetzungen der Beweismethoden des Lukrez," *RhM* 123 (1980), 97–125 (repr. in Classen 1986, 189–217).

Lausberg, H., D.E. Orton, and R. Dean Anderson, *Handbook of Literary Rhetoric: A Foundation for Literary Study* (Leiden, 1998).

Long, A.A., "Lucretius on Nature and the Epicurean Self," in Algra, Koenen, and Schrijvers 1997, 125–140.

Lloyd, G.E.R., *Polarity and Analogy. Two Types of Argumentation in Early Greek Thought* (Cambridge, 1966).

Maltby, R., "Etymologising and the Structure of Argument in Lucretius Book 1," in Cairns 2005, 95–112.

——, "The Limits of Etymologising," *Aevum(ant)* 6 (1993), 257–275.

Mantero, T., ed. *Analysis I. Didascalica* (Genoa, 1987).

Marković, D., "Lucretius 1.471–477: Tragic Flames in *DRN*", forthcoming (a).

——, "Lucretius 1. 638–644: A New Facet and an Old Problem," forthcoming (b).

Marrou, H.-I., *Histoire de l'éducation dans l'antiquité* 6th ed. (Paris, 1965).

Maurach, G., "Pindarische Gliederungszeichen," *Eos* 76 (1988), 217–235.

Milanese, G., *Lucida carmina. Comunicazione e scrittura da Epicuro a Lucrezio* (Milano, 1989).

——, "Osservazioni sulla tecnica argomentativa di Lucrezio," in Mantero 1987, 43–92.

Minadeo, R., "The formal design of *De rerum natura*." *Arion* 4 (1965), 444–461.

Minyard, J.D., *Mode and Value in the De rerum natura. A Study in Lucretius' Metrical Language* (Wiesbaden, 1978).

Monet, A., ed. *Le jardin romain: Épicurisme et poésie à Rome. Mélanges offerts à Mayotte Bollack* (Villeneuve d'Ascq, 2003).

Morgan, T.J., *Literate Education in the Hellenistic and Roman Worlds. Cambridge Classical Studies* (Cambridge, 1998).

Norden, E., *Agnostos Theos: Untersuchungen zur Formengeschichte religiöser Rede* (Leipzig, 1913).

——, *Die antike Kunstprosa vom VI. Jahrhundert v. Chr. bis in die Zeit der Renaissance.* 2 ed. (Leipzig, 1909).

Norrick, N.R., *Conversational Narrative: Storytelling in Everyday Talk* (Amsterdam, 2000).

Nussbaum, M.C., "Therapeutic Arguments: Epicurus and Aristotle," in Schofield and Striker 1986, 31–74.

Obbink, D., ed. *Philodemus and Poetry: Poetic Theory and Practice in Lucretius, Philodemus, and Horace* (Oxford, 1995).

O'Hara, J.J., *True Names: Vergil and the Alexandrian Tradition of Etymological Wordplay* (Ann Arbor, Mich., 1996).

Owen, W.H., "Structural patterns in Lucretius' *De rerum natura*," *CW* 62 (1968–

1969), 121–127; 66–72.
Pellicer, A., *Natura, étude sémantique et historique du mot latin* (Paris, 1966).
Perelman, Ch., *L'empire rhétorique: rhétorique et argumentation* (Paris, 1977).
Perelman, Ch., and L. Olbrechts-Tyteca, *La nouvelle rhétorique: Traité de l'argumentation,* 2 vols, (Paris, 1958).
Pöhlmann, E., "Charakteristika des römischen Lehrgedichts." In *ANRW 1: Von den Anfängen Roms bis zum Ausgang der Republik, 3*, 813–901 (Berlin, 1973).
Pope, S.R., "The Imagery of Lucretius," *G&R* 18 (1949), 70–79.
Porter, J.I., "ΦΥΣΙΟΛΟΓΕΙΝ. Nausiphanes of Teos and the Physics of Rhetoric: A Chapter in the History of Greek Atomism," *CronErc* 32 (2002), 137–186.
Porter, S.E., ed., *Handbook of Classical Rhetoric in the Hellenistic Period: 330 B.C.-A.D. 400* (Leiden, 1997).
Possanza, M., "The text of Lucretius 2.1174," *CQ* 40 (1990), 459–464.
Price, D. de S. *Gears from the Greeks. The Antikythera Mechanism: A Calendar Computer from ca. 80 B.C.* (Philadelphia, 1975).
Rabbow, P., *Seelenführung, Methodik der Exerzitien in der Antike* (München, 1954).
Race, W.H., *The Classical Priamel from Homer to Boethius* (Leiden, 1982).
Rambaux, C., "La logique de l'argumentation dans le De rerum natura III, 830–1094," *REL* 58 (1980), 201–219.
Rand, E.K., "La composition rhétorique du IIIième livre de Lucrèce," *RPh* sér. 3. 8 (1934), 243–266.
Rankin, H.D., "The ΑΔΥΝΑΤΟΝ as a Proof of *nullam rem e nilo* in Lucretius (I 150–170)?" *Emerita* 36 (1968), 309–313.
Rawson, E., *Intellectual Life in the Late Roman Republic* (Baltimore, 1985).
Riposati, B., *Studi sui "Topica" di Cicerone* (Milano, 1947).
Rowe, G.O., "The ΑΔΥΝΑΤΟΝ as a Stylistic Device," *AJPh* 86 (1965), 387–396.
Rumpf, L., *Naturerkenntnis und Naturerfahrung: Zur Reflexion epikureischer Theorie bei Lukrez* (München, 2003).
Schenkeveld, D.M., "Philosophical Prose," in Porter 1997, 195–264.
Scherer, A., *Handbuch der lateinischen Syntax* (Heidelberg, 1975).
Schiesaro, A., "Rhétorique, Politique et *Didaxis* chez Lucrèce," in Monet 2003, 57–75.
——, "The Palingenesis of *De rerum natura,*" *PCPhS* 40 (1994), 81–107.
——, *Simulacrum et imago: gli argomenti analogici nel De rerum natura* (Pisa, 1990).
——, "Lucrezio, Cicerone, l'oratoria," *MD* 19 (1987), 29–61.
——, "*Nonne vides* in Lucrezio," *MD* 13 (1984), 143–157.
Schindler, C., *Untersuchungen zu den Gleichnissen im römischen Lehrgedicht: Lucrez, Vergil, Manilius* (Göttingen, 2000).
Schmid, W., "Lucretius ethicus," in Gignon 1978, 123–151.
——, "Epikur," in *RAC 5*, 681–819 (Stuttgart, 1962).
Schofield, M., and G. Striker, eds., *The Norms of Nature. Studies in Hellenistic Ethics* (Cambridge, Paris, 1986).
Schrijvers, P.H., "Philosophie et paraphrase: Lucrèce et les sceptiques," in *La langue latine langue de la philosophie: Actes du colloque organisé par l'École française de Rome avec le concours de l'Université de Rome "La Sapienza" (Rome, 17–19 mai*

1990), 125–140 (Roma, 1992).
———, "Le regard sur l'invisible. Etude sur l'emploi de l'analogie dans l'œuvre de Lucrèce," in Gignon 1978, 77–121.
———, *Horror ac divina voluptas. Études sur la poétique et la poésie de Lucrèce* (Amsterdam, 1970).
———, "Éléments psychagogiques dans l'oeuvre de Lucrèce," in *Actes du VIIIe congrès de l'Association Guillaume Budé* 1969, 370–376 (repr. in Classen 1986, 375–381).
Sedley, D.N., *Lucretius and the Transformation of Greek Wisdom* (Cambridge, 1998).
———, "Philosophical Allegiance in the Greco-Roman World," in Griffin and Barnes 1989, 97–119.
———, "Epicurus and His Professional Rivals," in Bollack and A. Laks 1976, 119–160.
Sharrock, A., and H. Morales, *Intratextuality: Greek and Roman Textual Relations.* (Oxford, 2000).
Skutsch, O., *Studia Enniana* (London, 1968).
———, "Enniana: VI," *CQ* 14 (1964), 85–93.
———, "Notes on Metempsychosis," *CPh* 54 (1959), 114–115.
Slomkowski, P., *Aristotle's "Topics"* (Leiden, 1997).
Smith, M.F., "Some Lucretian Thought Processes," *Hermathena* 102 (1966), 73–83.
Snyder, J.M., *Puns and Poetry in Lucretius' De rerum natura* (Amsterdam, 1980).
Spangenberg, K.H.G., *De T. Lucretii Cari tropis* (Marburgi Cattorum, 1881).
Συζήτησις, Studi sull'epicureismo greco e romano offerti a Marcello Gigante (Napoli, 1983).
Tannen, D., "Repetition in Conversation: Toward a Poetics of Talk," *Language* 63 (1987), 574–605.
Thury, E.M., "Lucretius' Poem as a *simulacrum* of the rerum natura," *AJPh* 108 (1987), 270–294.
Traglia, A., *Studi sulla lingua di Empedocle* (Bari, 1952).
Traina, A., *Lo stile "drammatico" del filosofo Seneca* (Bologna, 1974).
Too, Y.L., ed., *Education in Greek and Roman Antiquity* (Leiden, 2001).
Toohey, P., *Epic Lessons: An Introduction to Ancient Didactic Poetry* (London, 1996).
Usener, H., "Epikurische Spruchsammlung," *WS* 10 (1888), 175–201.
Van der Eijk, Ph.J., "Towards a Rhetoric of Ancient Scientific Discourse: Some Formal Characteristics of Greek Medical and Philosophical Texts," in Bakker 1997, 77–129.
Van Hook, La R., *The Metaphorical Terminology of Greek Rhetoric and Literary Criticism* (Chicago, 1905).
Van Sickle, J., "The Book-Roll and Some Conventions of the Poetic Book," *Arethusa* 13 (1980), 5–42.
Vidale, N., *Affermare negando: gli argomenti ipotetici con conseguente falso nel De rerum natura* (Bologna, 2000).
Volk, K., *The Poetics of Latin Didactic: Lucretius, Vergil, Ovid, Manilius* (Oxford, 2002).
Walker, J., *Rhetoric and Poetics in Antiquity* (Oxford, 2000).
Wallach, B.P., "Lucretius and the Diatribe," in Bosl 1975, 49–77.

———, *Lucretius and the Diatribe Against the Fear of Death.* De rerum natura *III 830–1094* (Leiden, 1976).

Waszink, J.H., *Biene und Honig als Symbol des Dichters und der Dichtung in der griechisch-römischen Antike. Rhein-Westfälische Akademie der Wissenschaften, Vorträge G 196* (Opladen, 1974).

Webb, R., "The *Progymnasmata* as Practice," in Too 2001, 289–316.

Weber, H., *De Senecae Philosophi dicendi genere Bioneo* (Marpurgi Cattorum, 1895).

West, D.A., "Review of I. Dionigi, *Le parole e le cose*," *Gnomon* 62 (1990), 647–649.

———, "Farewell Atomology," *CR* 32 (1982), 25–27.

———, "Lucretius' Methods of Argument (3.417–614)," *CQ* 25 (1975), 94–116.

———, "Virgilian Multiple-Correspondence Similes and their Antecedents," *Philologus* 114 (1970), 262–275.

———, *The Imagery and Poetry of Lucretius* (Edinburgh, 1969).

West, D.A., and T. Woodman, eds., *Quality and Pleasure in Latin Poetry* (Cambridge, 1974).

Wiltshire, S.F., "*Nunc age*—Lucretius as Teacher," *CB* 50 (1973), 33–37.

Worthington, I., "Greek Oratory, Revision of Speeches and the Problem of Historical Reliability," *C&M* 42 (1991), 55–74.

Youtie, H. Ch., and J.G. Winter, *Papyri and Ostraca from Karanis. 2nd Series, Michigan Papyri, 8* (Ann Arbor, 1951).

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